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ABSTRACT

Information on university study and possible careers is provided to secondary school students and counselors in South Africa. Information is presented on degrees, diplomas, and certificates awarded by 18 South African universities; entrance requirements of universities and degree programs; and the length of courses and major subjects required for degrees, particularly three types of bachelor's degrees (Bachelor of Art, Bachelor of Commerce, and Bachelor of Science). Descriptions of each field of study are included. It is noted that university admission is controlled by the Joint Matriculation Board (JMB), and that successful candidates for JMB's matriculation examination may be awarded either a school-leaving certificate or a Matriculation Certificate. In addition, possible occupations for most of the study fields are briefly described. Information is also provided on institutions that generally employ persons with the qualifications that are identified. Included are an index of occupations and/or study fields, and the addresses of universities, technikons, government departments, and other institutions that could provide the user with more information on training or job opportunities. (SW)

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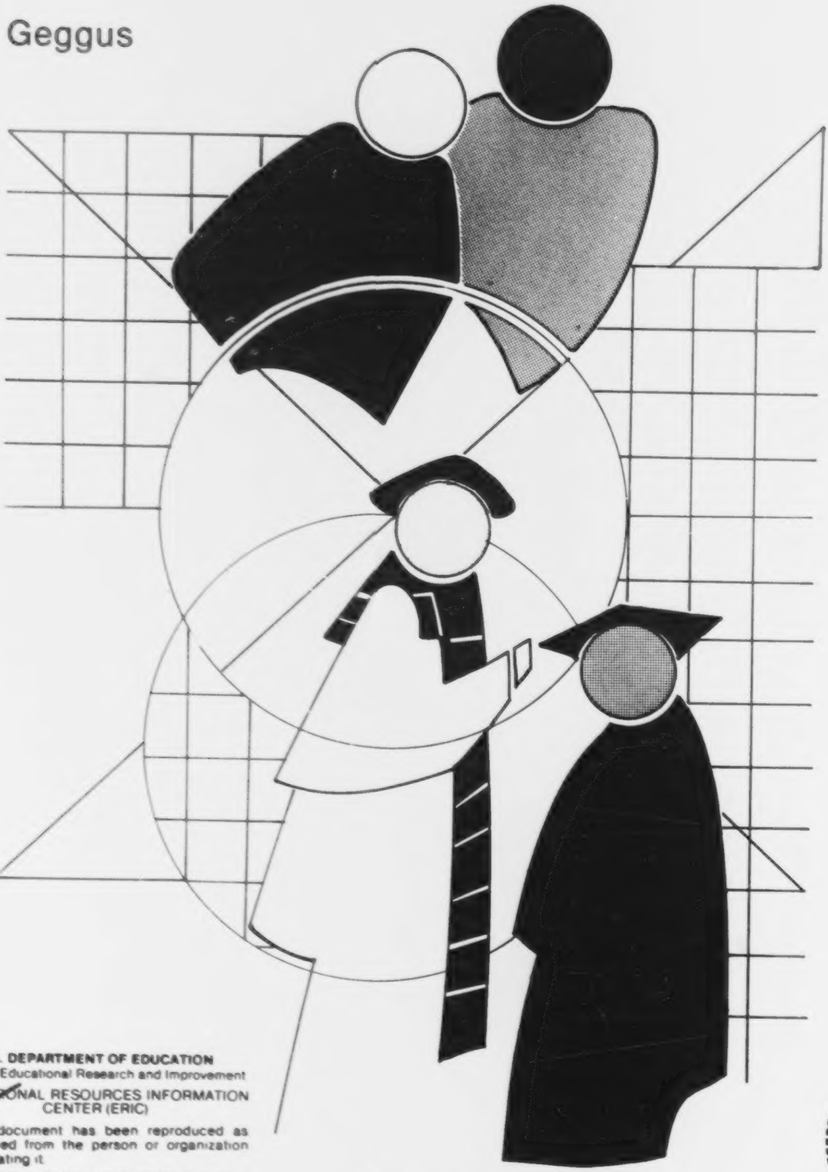
Report MM-115

1986

HSRC-Guidance Series GS-5

University training and career opportunities 1985

Caroline Geggus



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Report MM-115

HSRC Guidance Series GS-5

University training and career opportunities 1985

Caroline Geggus

Revised edition

Pretoria
Human Sciences Research Council
1986

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Institute for Manpower Research
Executive Director: Dr S.S. Terblanche

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PREFACE

This publication is a revised edition of *University training and career opportunities* which was published in 1982. Its purpose is to provide, especially to secondary school pupils, essential basic information on university study and possible careers. This publication, together with *Tertiary training outside universities and career opportunities (GS-4)* and *Training and career opportunities for school-leavers before Standard Ten (GS-3)* in the HSRC's Guidance Series, provides information on training and career opportunities over a very broad spectrum.

Information on training is based on the 1985 university calendars and concerns students from all the population groups. The attention of prospective students is especially drawn to the admission requirements of universities. It is essential that applications for admission to particular courses at particular universities be made in good time. It is also desirable and indeed good practice, to contact possible employers beforehand to determine the possibilities of a career in particular occupational fields.

Thanks are due to all bodies which co-operated willingly to provide information. Particular appreciation is expressed to the universities which made information and some of their own publications available; the Department of Manpower and the editorial staff of *My Career*, from which valuable information on career possibilities was obtained; the Commission for Administration and other public and private bodies.

The HSRC trusts that schools, universities and other organisations and individuals concerned with the guidance of pupils and students will find this book a useful source of information.

EXECUTIVE DIRECTOR

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SAMEVATTING

Die doel van hierdie verslag is om samevattende inligting oor universitêre opleiding en beroepsmoontlikhede aan sekondêre skoolleerlinge en voorligters te verskaf.

Die 1985-jaarboeke van al die universiteite in die RSA is gebruik om besonderhede te sistematiseer oor die grade, diplomas en sertifikate wat aangebied word; die toelatingsvereistes wat die betrokke universiteit vereis; die tydsduur van die kursusse, en die hoofvakke wat geneem kan word, veral vir die B.A.-, B.Comm.- en B.Sc.-graad.

Vir die meeste studierigtings word 'n kort beskrywing gegee van moontlike beroepe wat gevolg kan word. Instansies wat persone met die betrokke kwalifikasies moontlik in diens sal neem, word ook kortliks aangedui.

Die publikasie word afgerond deur 'n indeks van beroepe en/of studierigtings wat die naslaan van besonderhede vergemaklik en adreslyste van universiteite, technikons, staatsdepartemente en ander instansies waar die gebruiker verdere inligting oor die opleiding of werkgeleenthede kan bekom.

Die verslag is 'n nuttige naslaanwerk vir alle voornemende universiteitstudente en skoolvoorligters wat 'n oorsig wil bekom van die groot verskeidenheid van kwalifikasies wat verwerf kan word en die moontlike beroepsgeleenthede wat beskikbaar is.

ABSTRACT

The aim of this report is to provide secondary school pupils and guidance teachers with a summary of information on university training and occupational possibilities.

The 1985 yearbooks of all the universities in the RSA were used to collect data on the degrees, diplomas and certificates that are offered; the entrance requirements of the various universities; the length of the courses and the major subjects required for each, particularly for B.A., B.Com. and B.Sc. degrees.

A short description of possible occupations is given for most of the study fields. Institutions that generally employ persons with the qualifications concerned are also indicated briefly.

The publication contains an index of occupations and/or study fields - this facilitates reference to details, as well as address lists of the various universities, technikons, government departments and other institutions that could provide the user with more information on training or job opportunities.

This report is a useful reference work for all school guidance teachers or prospective university students who require an overview of the large variety of qualifications that can be obtained and the possible job opportunities that are available.

CHAPTER 1

UNIVERSITY TRAINING

AIM OF UNIVERSITY TRAINING

Students in general and prospective university students in particular should be conversant with the nature and significance of university study. They should be aware of the difference between university training and other training at tertiary level. Unfortunately, it is not possible to present a detailed exposition at this stage. However, a few directives should suffice.

There are various training institutions at tertiary level such as the universities, the technikons, teachers' training colleges and others. All these institutions have a joint, non-competitive function, with the principal aim of training students to achieve their full potential. These institutions function in the entire field of tertiary education and each has a specific function to fulfil. The difference between the universities and the other tertiary education institutions is determined by the variation in functions which each fulfils in the sphere of tertiary education.

The point of departure is that it is not the function of a university to train someone for an occupation but to educate and form the candidate for the eventual pursuit of an occupation. The student is taught to think critically, to develop the ability to acquire new knowledge on his own initiative, to reveal qualities of leadership and to solve problems. The university is consequently not a vocational school. As against this, the technikons for instance, concentrate on developing an attitude and approach in the student that will primarily make of him a person fully able to apply his knowledge in practice. In this case, there is greater emphasis on the application of knowledge than on the knowledge itself.

Although universities are sympathetic towards the wishes of graduates and employers, namely that students should be trained more functionally for the pursuit of an occupation, such training would deviate from the nature, aim and function of the university. In this regard, employers should be prepared to invest in the in-service training of their personnel in order to cultivate specific knowledge and skills for a particular professional function. As far as the universities are concerned, it will only be possible in the vocationally oriented fields of study to equip the student professionally to any great extent.

University study imposes stringent demands and students who are not willing or able to satisfy these demands, should not attend the university. For such persons there are other training institutions which offer different but by no means inferior training. For this reason, timely guidance and, in particular, knowledge of the inevitable interaction of occupation, field of study and training institution are essential.

Those who cannot or should not attend a university or do not wish to do so, can obtain full particulars on non-university tertiary training in the HSRC publication Tertiary training outside universities and career opportunities.

CHOICE OF A FIELD OF STUDY

The choice of a field of study should be the result of the choice of an occupation and not the other way around. To pursue a university course without further ado in the hope that, on the basis thereof, it will lead to the pursuit of a vocation, may easily lead to disillusionment. Appropriate job opportunities often do not exist. The occupation should consequently determine the field of study and the field of study will, in its turn, determine the training institution.

The most important choice consequently centres in the occupation that will eventually be pursued. However, it often happens that a student makes a vocational choice, in spite of the fact that such a vocation does not represent his main interest, or that he selects a field in which he does not have sufficient aptitude. The subjects which will have to be taken are also not always taken into consideration. In most cases, the subjects are only names to him and the most useful subject combination is often totally ignored.

Persons who have pursued a vocationally oriented course usually do not have problems in obtaining a post in which their training can be utilised. It is mainly those persons with non-vocationally oriented training and particularly those with an ordinary B.A. degree without a professional qualification who have no specific labour market in which they can compete. Many students, even in the course of their university careers, have no certainty about the occupation they are going to pursue. Although there is no doubt concerning the formative value of university study, these students can experience problems in occupational life. They can find employment which is indirectly, vaguely or in no way related to their study. Often such persons find themselves side by side with non-graduates in the same job situation.

There is no doubt about the momentous importance of a choice, as a career does not simply determine what a person is going to do one day, but also the kind of people he will have to work with, his home and place of work, his level of income, but especially whether lasting satisfaction from his career will be his share in life. Furthermore, in our age there is simply no time or place for failures. The price which must be paid for failure is much too high, since the person who does not equip himself for better things will have to be satisfied with an inferior position in the social and economic sphere. One important cause of failure is insufficient or even incorrect training.

Planning a career necessitates an evaluation of the individual's interest and capability, as well as the demands made by a particular career or occupational field and the field of study which will have to be taken. A large measure of interest in an occupational field, although important, is, however, not sufficient on its own to justify a choice of career. Aptitude and ability are also required. Naturally, the reverse is also true: a person may have all the necessary ability and aptitude for a certain profession, but may nevertheless not be interested in it. What is required, therefore, is a choice which will be marked by the highest correlation between aptitude and ability for a specific career on the one hand, and on the other hand interest in as well as a sound knowledge of the demands made by that career, job opportunities and the possibilities of promotion.

Apart from expert guidance which candidates should already receive at school, the Department of Manpower, by means of its Vocational Service Division, is prepared to assist any young person or adult in the choice of a suitable career or field of study. Where great uncertainty exists, psychological tests are applied to determine fields of interest and aptitude. Trained vocational advisers are stationed in all the larger centres in the country. In addition, the Department publishes a quarterly journal, My Career, which is supplied to schools free of charge and in which a large variety of careers are discussed and extensive knowledge of the professional world is supplied. Various other bodies provide information in connection with careers, but then only for their own purposes. The HSRC also undertakes testing and interviewing in cases where vocational guidance is required.

The tremendous service undertaken by universities in this field deserves special mention. In addition to brief orientation programmes at the beginning of each year by which beginners are introduced to various subjects and fields of study, the functioning of the university machine, etc., considerable amounts of guidance material on courses and careers are made available. Students and prospective students should therefore not hesitate to make use of these facilities. Although it can probably be expected of a prospective student to know upon enrolment which course he wants to take and which subjects he wants to choose, the student guidance bureau of a university is always prepared to render assistance. Attention is given to virtually all aspects of the newcomer's life at the university. First-year students will soon realise that a university is not merely an academic machine, but also an institution where he has the opportunity to develop into a mature, balanced and educated person during his formative years.

VOCATIONAL SERVICE

It will be noted that the sections on VOCATIONAL SERVICE in this book mainly provide guidance to students on planning for a career after they have obtained a first degree. However, it should be remembered that we are living in an age of specialization and that the Bachelor's degree, in most cases, merely paves the way towards an occupational field which can be followed after further training. Attention is thus constantly drawn to the necessity for postgraduate study and/or additional professional training. The highest qualification obtained or major subjects for a degree normally correlate with the occupation which will eventually be pursued but this by no means implies that the candidate, having obtained a degree or a diploma or even a degree and a diploma, can regard himself as fully qualified for a position. A person with Economics as a major subject for a degree, for instance, can in no way lay claim to being an economist in the full sense of the word, and Psychology as a major does not mean that such a person is a fully qualified psychologist. To become an economist or psychologist, for example, requires a great deal of experience and advanced postgraduate study. This is also true of practically all other occupational fields, even those for which specifically defined courses are taken. The early stage of any career is merely a continuation of the person's training.

Students should ascertain, as far as possible, what the demand is for employees in particular occupational fields. It may happen that a number of persons obtain degrees with certain major subjects, while the occupational possibilities in these fields are slight. Candidates proceeding to a university are thus strongly recommended to keep themselves well-informed, not only of the fields of study which will suit them best, but also of those career fields which a particular field of study will possibly open up for them.

The primary aim with the book is to make available information on university training. The information on career opportunities, i.e. vocational service is additional and secondary and unfortunately cannot be discussed in detail. Since the book is not a commercial publication, not much room could be allowed for information on employers in the private sector. It must also be borne in mind that those who have completed their studies cannot automatically be assured of employment by employers mentioned in the vocational service.

THE FINANCING OF STUDIES

The concept financing of studies implies the defraying of total expenditure in connection with the training of a student at a university, and it embraces much more than merely the amount of money which it will cost a student and the defrayal thereof. To obtain perspective in the matter, the cost of university training should be viewed from two sides at least, viz from the side of the university and secondly from the point of view of the student. With this approach the important question, for example, as to why class fees at a university are so high and why they are increased again and again, will be explained to some extent.

From the side of the university: Of the annual current expenditure of residential universities, approximately 12 per cent is contributed by the student himself, roughly 4 per cent by the university, assisted by the community, and approximately 84 per cent by the State, i.e. the taxpayer. This means that the State and the community pay about 88 per cent of the direct cost of training a student. Students therefore have no reason to complain about their share of current expenditure of universities. One has good reason for referring to people who call themselves students, but who neglect their work and make no progress in their studies, as "subsidized loafers" who "enjoy life" at university at the expense of others who do work.

To be a student, and this phase of life is not begrudged any true student, is therefore not only a great privilege, but also involves tremendous responsibility.

From the point of view of the student: It is practically impossible to give an exact indication of how much money per annum will be sufficient for the needs of each individual student. The amount is determined, inter alia, by the type of a course, the subjects which are studied, the student's personal needs, board and lodging in a hostel, etc. A university is not a school where all the groups of pupils attend the same classes. Students have a free choice of universities, fields of study and subjects. At some universities study, life in general and lodging are more expensive than at others; some courses are more expensive than others at the same university; sometimes fees for the first year differ from fees for the other years of study, and students differ from one another in what they consider essential for their personel needs. However, a prospective student can very easily work out a budget for his intended studies in co-operation with the university of his choice.

Sources of financial assistance: There is a country-wide need of high-level manpower and to provide for this need bursaries, loans, scholarships, etc. are offered to students by, for example, the Government, the provincial administrations, municipalities, large business concerns and the universities themselves. However, it should be remembered that financial aid is more readily available for students with a record of meritorious academic achievement at school and afterwards. The better the progress, the better the chances of awards. This does not mean, however, that only brilliant pupils and students are considered for bursaries. The average student with a fine record of progress can also depend on assistance.

- Bursaries and bursary loans: These two concepts are actually the same thing and amount to awards which are repayable not in cash, but in the form of service. (In exceptional cases no repayment need be made.) Bursaries are normally awarded on the strength of need and academic achievement. When there is a breach of contract, the bursary must be repaid in cash plus interest. Service normally means one year of service for each year for which the award is made.

- Study loans must, as the name implies, be repaid as soon as the student starts working. From that date onwards the interest is also brought into account.

- Scholarships, also called achievement bursaries, are awarded for academic achievement and are normally not repayable. Some universities also award prizes and medals for excellent work.

Information on bursaries and loans may be obtained from:

. Brochures on bursaries from the various universities, which are available on request.

. The publication of the Human Sciences Research Council: Financial assistance for undergraduate study in the RSA. The book contains information as obtained from universities, bodies and organizations which make awards available, and information gained from press announcements and other sources.

- Many students provide for their financial needs through part-time work.

Remarks: A few general remarks which may contribute towards facilitating the financing of study, are the following.

. The better a student/pupil performs academically, the easier it is to obtain financial assistance.

. It is normally most difficult to obtain money from normal financing sources for the first year of study. After one year's study and proofs of ability and achievement, the chances of obtaining money improve. This means that a student will normally have to make his own provisions for the first year.

. Many students earn a reasonable amount of money by working part-time. However, it is recommended that priority should be given to study and that part-time work, for example, should not be undertaken during the second semester.

. Full-time holiday work is strongly recommended by universities.

. Short-sightedness, for example, by looking only for bursaries to which no service stipulation is attached, should be avoided.

. It is a good policy to consult possible employers, to whom a field of study may be applicable, directly about financial assistance.

. Collect all information concerning the cost aspect, so that financial assistance may be applied for in good time.

RESEARCH

In this day and age, large-scale scientific research in nearly every conceivable field has become indispensable for every progressive country, not only for the expansion and enrichment of knowledge, but for effective planning in every sphere of the country's economy. South Africa is no exception and there are numerous research facilities and bodies which cover the broad field of activities involving the natural and human sciences.

Among the most important research bodies in the field of the natural sciences are

- various government departments and the four provincial administrations;
- statutory bodies such as the Council for Scientific and Industrial Research (CSIR) which controls various institutes and departments and subsidizes research at universities and other institutions; the Council for Mineral Technology, the National Parks Board of Trustees, the National Road Safety Council, the SABS, the SA Institute for Medical Research, the SA Medical Research Council (various institutes and units), the Water Research Commission;
- all the universities (the universities themselves or their research institutes and units, acting on their own initiative or in co-operation with other organizations);
- the various technikons;
- various museums, observatories, botanical and zoological gardens;
- public corporations including ESCOM, Fisheries Development Corporation of SA, PHOSCOR, SASOL, ISCOR, SOECOR, the SA Inventions Development Corporation, the Uranium Enrichment Corporation of SA and the Nuclear Development Corporation of SA;
- a number of industrial research institutes which are subsidized by the CSIR or the Government or which function independently, as well as several industrial companies with separate research departments.

Research into the human sciences is undertaken by

- various government departments and the four provincial administrations;
- statutory bodies such as the Human Sciences Research Council (HSRC) which controls a number of research institutes and, in addition, subsidizes research by universities, other bodies and even private persons on an extensive scale; the Africa Institute of SA; the Productivity Advisory Council; the SA Reserve Bank;
- the universities (the universities themselves or their research institutes and units, acting on their own initiative or in co-operation with other organizations);
- some municipalities.

Young graduates who strive for recognition for original contributions can make use of the opportunity to do research work on their own initiative under the guidance of experienced persons, some of whom are of international repute. There are numerous opportunities and virtually unlimited possibilities in the natural and human sciences. Well-equipped offices, laboratories and libraries, as well as modern equipment such as computers are at the disposal of researchers.

Experience in research work is of inestimable value in any walk of life and is often also a useful point of departure for a career in the Public Service, at a university, or in the many sections of the private sector. The minimum educational requirement for young researchers is usually a Bachelor's degree but in some cases an Honours or Master's degree, depending on the field of research. Postgraduate study remains important and is often a prerequisite for promotion to a senior rank.

CHAPTER 2

FACULTIES AND DEPARTMENTS OF THE UNIVERSITIES, 1985

UNIVERSITY OF CAPE TOWN (English-medium)

FACULTY OF ARTS

African Languages; Afrikaans en Nederlands; Archaeology; Classics; Cultural History of Western Europe; Drama; Economic History; English Language and Literature; German Language and Literature; Hebrew Studies; History; Linguistics; Romance Studies: French Language and Literature, Italian Language and Literature.

FACULTY OF COMMERCE

Accounting; Business Science; Graduate School of Business; School of Economics: Division of Economics.

FACULTY OF EDUCATION

Education; School of Librarianship.

FACULTY OF ENGINEERING

Chemical Engineering; Civil Engineering (including Water Resources and Public Health Engineering); Electrical and Electronic Engineerig; Materials Engineering; Mechanical Engineering; Surveying.

FACULTY OF FINE ART AND ARCHITECTURE

School of Architecture; Building Management; Quantity Surveying; Urban and Regional Planning; Michaelis School of Fine Art.

FACULTY OF LAW

Commercial Law; Criminal and Procedural Law; Public Law; Roman and Comparative Law; Roman-Dutch and Private Law.

FACULTY OF MEDICINE

Anaesthetics; Anatomy; Biomedical Engineering; Cardio-Thoracic Surgery; Chemical Pathology; Clinical Science and Immunology; Community Health; Dermatology; Forensic Medicine and Toxicology; Haematology; Logopaedics; Medical Biochemistry; Medical Microbiology; Medical Physics; Medicine; Neurology; Neurosurgery; Nuclear Medicine; Nursing; Obstetrics and Gynaecology; Occupational Therapy; Ophthalmology; Orthopaedic Surgery; Otorhinolaryngology; Paediatrics and Child Health; Paediatric Surgery; Pathology; Pharmacology; Physiology; Physiotherapy; Plastic Surgery; Psychiatry; Radiology; Radiotherapy; Surgery; Urology.

FACULTY OF MUSIC

College of Music, School of Ballet; School of Opera.

FACULTY OF SCIENCE

School of Chemical Sciences: Analytical Science, Inorganic Chemistry, Organic Chemistry, Physical Chemistry;

School of Earth Sciences: Environmental and Geographical Science, Geochemistry, Mineralogy and Geology;

School of Life Sciences: Biochemistry, Botany, Microbiology, Zoology;

School of Mathematical Sciences: Applied Mathematics, Computer Science, Mathematical Statistics, Mathematics;

School of Physical Sciences: Astronomy, Physics, Oceanography.

FACULTY OF SOCIAL SCIENCE AND HUMANITIES

Anthropology; Economics; Philosophy; Political Studies; Psychology; Public Administration; Religious Studies; School of Social Work; Sociology.

UNIVERSITY OF DURBAN-WESTVILLE (English-medium)

FACULTY OF ARTS

Afrikaans and Nederlands; Anthropology; Arabic, Urdu and Persian; Classical Languages; Criminology; English; Fine Arts; French; German; Hindu Studies; Hindi; Telegu & Gujerati; History; History of Art; Islamic Studies; Library and Information Science; Music; Oriental Studies; Philosophy and Political Science; Phonetics and Linguistics; Psychology; Sanskrit; Science of Religion; Social Work; Sociology; Speech and Drama; Zulu.

FACULTY OF COMMERCE AND ADMINISTRATION

Accountancy; Business Administration; Business Economics; Economics; Industral Psychology; Public Administration; Statistics.

FACULTY OF EDUCATION

Applied Didactics; Foundations of Education; General Didactics; Physical Education; Psychology of Education.

FACULTY OF ENGINEERING

Chemical Engineering; Civil Engineering; Electrical Engineering; Mechanical Engineering.

FACULTY OF HEALTH SCIENCES

Anatomy; Dentistry; Home Economics; Nutrition; Occupational Therapy; Optometry; Pharmacology; Pharmacy; Physiotherapy; Speech Therapy and Audiology.

FACULTY OF LAW

Mercantile Law; Private Law; Public Law.

FACULTY OF SCIENCE

Biochemistry; Botany; Chemistry; Computer Science; Geography; Geology; Human Physiology and Physiological Chemistry; Mathematics and Applied Mathematics; Microbiology; Physics; Zoology.

FACULTY OF THEOLOGY

Church History and Missiology; Old Testament, New Testament and Biblical Studies; Practical Theology and Systematic Theology and Ethics.

UNIVERSITY OF FORT HARE (English-medium)

FACULTY OF AGRICULTURE

Agricultural Economics; Agricultural Engineering; Agricultural Extension and Rural Development; Agronomy (Sub-departments : Crop Science, Pasture Science and Horticultural Science); Animal Science (Sub-departments : Anatomy and Physiology/Animal Health, Small Stock and Animal Production Science, Sheep and Wool Science); Genetics and Plant Protection; Soil Science.

FACULTY OF ARTS

African Studies (Anthropology, Archaeology and Development Studies); Afrikaans-Nederlands; Biblical Studies; Classical Languages; Communication; Criminology; English; Fine Arts; History; Library and Information Science; Philosophy; Political Science and Public Administration; Psychology; Sociology; Social Work; Xhosa and Sotho.

FACULTY OF ECONOMIC SCIENCES

Accountancy; Business Economics; Economics; Industrial Psychology.

FACULTY OF EDUCATION

Didactics and the Science of Teaching; Empirical and Orthopedagogics; Fundamental Pedagogics; Historical and Comparative Pedagogics; Music; Pedagogical Research and Methodology; Physical Education.

FACULTY OF LAW

African and Comparative Law; Constitutional and Public International Law; Criminal Law and Procedure; Mercantile Law; Private Law.

FACULTY OF SCIENCE

Applied Computer Science; Applied Mathematics; Biochemistry and Microbiology; Chemistry; Geography; Geology; Health Sciences; Mathematics; Physics; Plant Sciences; Statistics; Surveying; Zoology.

FACULTY OF THEOLOGY

Ecclesiastical History and Missiology; New Testament Studies and Pastoral Theology; Old Testament Studies and Hebrew; Systematic Theology.

MEDICAL UNIVERSITY OF SOUTHERN AFRICA - MEDUNSA (English-medium)

FACULTY OF DENTISTRY

Community Dentistry; Conservative Dentistry; Diagnostic Radiology; Oral Pathology and Oral Biology; Oral Surgery; Orthodontics; Periodontology and Oral Medicine; Prosthetic Dentistry; Stomatological Studies.

FACULTY OF MEDICINE

Anaesthesiology; Cardiology; Clinical Psychology; Community Health; Dermatology; Diagnostic Radiology; Family Medicine; Forensic Pathology; General Surgery; Human Nutrition, Internal Medicine; Nephrology; Neurology; Neurosurgery; Nursing Science; Obstetrics and Gynaecology; Occupational Therapy; Ophthalmology; Orthopaedics; Otorhinolaryngology; Paediatrics and Child Health; Pharmaceutics; Physiotherapy; Plastic Surgery; Psychiatry; Radiography; Thoracic Surgery; Urology.

FACULTY OF VETERINARY SCIENCE

Anaesthesiology; Anatomy; Animal Health and Production; Applied Veterinary Practice; Infectious Diseases and Public Health; Medicine; Pathology; Pharmacology; Surgery; Theriogenology.

INTERFACULTY DEPARTMENTS

Anatomical Pathology; Anatomy; Chemical Pathology; Haematological Pathology; Medical Physics; Microbiological Pathology (including sub-department of Virology); Pharmacology and Therapeutics; Physiology.

UNIVERSITY OF NATAL (English-medium)

FACULTY OF AGRICULTURE

Agricultural Economics; Agricultural Engineering; Animal Science and Poultry Science; Biochemistry; Crop Science; Dietetics and Home Economics; Entomology; Genetics; Grassland Science; Horticultural Science; Microbiology and Plant Pathology; Soil Science and Agrometeorology; Statistics and Biometry.

FACULTY OF ARCHITECTURE AND ALLIED DISCIPLINES

Architecture; Building Management; Quantity Surveying and Building Economics; Town and Regional Planning.

FACULTY OF ARTS

Afrikaans en Nederlands; Classics; Economic History; Economics; English; Fine Arts and History of Art; French; General Linguistics and Communication; German; Hebrew and Jewish Studies; Historical Studies; History; Library Science; Music; Philosophy; Political Science; Political Studies; Religious Studies; Sociology; Spanish; Speech and Drama; Zulu Language and Literature.

FACULTY OF COMMERCE

Accountancy; Business Administration.

FACULTY OF EDUCATION

Education; Educational Psychology.

FACULTY OF ENGINEERING

Agricultural Engineering; Chemical Engineering; Civil Engineering; Electrical Engineering; Electronic Engineering; Mechanical Engineering; Surveying and Mapping.

FACULTY OF LAW

Adjectival and Clinical Law; Commercial Law; Private Law; Public Law; School of Law.

FACULTY OF MEDICINE
(This faculty caters for Non-White students only.)

Anaesthetics; Anatomical Pathology; Anatomy; Chemical Pathology; Community Health; Experimental and Clinical Pharmacology; Forensic Medicine; Haematology; Medicine: Cardiology, Dermatology; Microbiology; Neuro-Surgery; Obstetrics and Gynaecology; Ophthalmology; Orthopaedic Surgery; Otorhinolaryngology; Paediatrics and Child Health; Physiology; Psychiatry; Radiology; Radiotherapy and Oncology; Surgery: Maxillo Facial Surgery, Paediatric Surgery, Plastic and Reconstructive Surgery; Thoracic Surgery; Urology; Virology.

FACULTY OF SCIENCE

Biochemistry; Biological Sciences; Botany; Chemistry, Pure and Applied; Chemistry and Chemical Technology; Computer Science; Entomology; Geography; Geology and Applied Geology; Geology and Mineralogy; Mathematical Statistics; Mathematics and Applied Mathematics; Physics; Psychology; Statistics and Biometry; Zoology.

FACULTY OF SOCIAL SCIENCE

African Studies: Social Anthropology, Comparative African Government; Centre for Applied Social Sciences; Development Studies Unit; Geography; Nursing; Psychology; Social Work; Sociology.

UNIVERSITY OF THE NORTH (English-medium)

FACULTY OF AGRICULTURE

Agricultural Economics; Animal Production; Botany; Chemistry; Plant Production; Soil Science.

FACULTY OF ARTS

Afrikaans; Anthropology; Biblical Studies; Classical Languages; Criminology; English; General Linguistics and General Literary Studies; Geography; German; History; Library and Information Science; Mathematics; Northern Sotho; Philosophy; Physical Education; Political Science; Psychology; Public Administration; Semitic Languages; Social Work; Sociology; Southern Sotho; Tswana, Venda, Xitsonga.

FACULTY OF ECONOMICS AND ADMINISTRATION

Accounting and Auditing; Agricultural Economics; Business Economics; Economics; Industrial Psychology; Mathematical Statistics; Political Science; Public Administration.

FACULTY OF EDUCATION

Comparative Education; Didactics; Educational Practice; Empirical Education; Fundamental Education; History of Education; Language Methodology.

FACULTY OF LAW

African Government and Law; Criminal Law and Procedure; Jurisprudence, History of Law and Comparative Law; Mercantile Law; Private Law; Public International Law; Constitutional Law and Administrative Law.

FACULTY OF MATHEMATICS AND NATURAL SCIENCES

Applied Mathematics; Biochemistry; Botany; Chemistry; Computer Science; Geography; Geology; Mathematics; Mathematical Statistics; Medical Laboratory Sciences; Nursing; Optometry (Professional Section); Pharmaceutical Chemistry; Pharmaceutics (Sub-department: Microbiology); Pharmacology; Physics; Physiology; Psychology; Zoology and Biology.

FACULTY OF THEOLOGY

Theological Divisions.

UNIVERSITY OF THE ORANGE FREE STATE (Afrikaans-medium)

FACULTY OF AGRICULTURE

Agricultural Economics; Agricultural Engineering; Agrometeorology; Agronomy/Horticulture; Animal Science/Animal Anatomy and Animal Physiology; Biometry; Dairy Science; Genetics; Pasture Science; Plant Pathology; Small Stock Science; Soil Science.

FACULTY OF ARTS

Afrikaans and Nederlands; Anthropology and Applied Anthropology; Bantu Languages; Communication; Dramatic Art and Theatrical Art; English; Fine Arts; General Linguistics; General Literary Theory; Geography; German; Greek; History; History of Art; Latin; Library Science and Information Science; Music; Philosophy; Physical Education; Political Science; Romance Languages; Semitic Languages.

FACULTY OF ECONOMIC AND ADMINISTRATIVE SCIENCES

Accounting; Business Economics; Economics; State and Municipal Administration; Industrial Psychology; Money and Banking; Transport Economics; Typing and Snelskrif (Shorthand).

FACULTY OF EDUCATION

Didactics; Graphics (Teaching); Historical and Comparative Education; Industrial Arts; Philosophy of Education and Andragogics; Psychopedagogics.

TEACHERS' COLLEGE

Afrikaans; Art; Education; English; General Science; Geography and History; Junior Primary Work; Mathematics; Needlework; Orthopedagogics; Physical Education; Pre-Primary Education; Psychopedagogics; Religious Instruction; Singing and Music; Southern Sotho; Speech, Theatrical and Performing Art; Teaching Aids; Woodwork.

FACULTY OF LAW

Constitutional Law and Legal Philosophy; Criminal Law; Mercantile Law; Private Law; Procedural Law; Roman Law and Legal History.

FACULTY OF MEDICINE

Anaesthetics; Anatomical Pathology; Anatomy; Subdepartment: Bio-engineering; Biophysics; Cardiology; Cardio-Thoracic Surgery; Chemical Pathology; Community Health; Critical Care; Dermatology; Diagnostic Radiology; Dietetics; Family Doctor Practice; Forensic Medicine; Haematology; Internal Medicine; Microbiology (Medical); Neurology; Neurosurgery; Nuclear Medicine; Obstetrics and Gynaecology; Occupational Therapy; Oncotherapy; Ophthalmology; Orthopaedics; Otorhinolaryngology; Paediatrics and Child Health; Pharmacology; Physiology; Physiotherapy; Plastic Surgery; Psychiatry; Surgery; Urology.

FACULTY OF SCIENCE

Applied Mathematics; Architecture; Astronomy; Biochemistry; Botany; Chemistry; Computer Science and Business Data Processing; Geology; Geochemistry, Geohydrology and Hydrology; Home Economics; Mathematical Statistics and Statistics; Mathematics; Microbiology; Physics; Quantity Surveying/Building Management; Town and Regional Planning; Zoology/Entomology.

FACULTY OF SOCIAL SCIENCES

Criminology; Industrial Sociology; Nursing; Psychology; Social Work; Sociology.

FACULTY OF THEOLOGY

Biblical Studies; Diaconiology; Dogmatology; Ecclesiology; Missiology; New Testament Exegesis and Theology; Old Testament Exegesis and Theology.

UNIVERSITY OF PORT ELIZABETH (Dual-medium)

FACULTY OF ARTS

Afrikaans/Nederlands; Anthropology; Biblical Studies; English; French; Geography; German; Greek; History; Latin; Music; Nguni and Sotho Languages; Nursing Science; Philosophy; Political Science; Psychology; Public Administration; Semitica; Social Work, Sociology.

FACULTY OF ECONOMIC SCIENCES

Accountancy subjects; Architectural subjects; Building Management subjects; Business Economics; Economics and Economic History; Industrial and Organizational Psychology; Quantity Surveying subjects.

FACULTY OF EDUCATION

Didactical Pedagogics; Didactics of Tertiary Education; Fundamental Pedagogics; Inter-department of Pedagogics; Physical Education; Psychological Pedagogics; Professional Training of Teachers.

FACULTY OF LAW

Adjective Law; Mercantile Law; Private Law; Public Law.

FACULTY OF SCIENCE

Applied Mathematics; Biochemistry; Botany; Chemistry; Computer Science; Geology; Mathematics; Mathematical Statistics; Pharmacy; Physics; Textile Science; Zoology.

POTCHEFSTROOM UNIVERSITY FOR CHRISTIAN HIGHER EDUCATION (Afrikaans-medium)

FACULTY OF ARTS

Afrikaans-Nederlands; Anthropology; Bantu Languages; Biblical Studies; Communication; Criminology; Development Administration; English; French; Fine Arts; General Linguistics and Literary Theory; Geography; German; Greek; History; History of Art; International Politics; Latin; Library and Information Science; Music; Nursing; Philosophy; Physical Education; Political Science; Psychology; Semitic Languages; Social Work; Sociology; Speech and Drama; Theory of Science; Town and Regional Planning.

FACULTY OF ECONOMIC SCIENCES

Accounting and Auditing; Business Administration; Business Economics; Cost Accounting; Economics; Industrial and Personnel Psychology; Industrial Sociology; Theory of Science; Typing and Snelskrif (Shorthand).

FACULTY OF EDUCATION

Didactics; Fundamental Education; Guidance and Orthopedagogics; Psychoeducation; Teaching Management and Teaching Science; Temporal and Comparative Education; Theory of Science.

FACULTY OF ENGINEERING

Chemical Engineering; Electrical and Electronic Engineering; Mechanical Engineering; Metallurgical Engineering; Theory of Science.

FACULTY OF LAW

Criminal Law; Mercantile Law; Philosophy of Law; Private Law; Procedural Law and Law of Evidence; Public Law; Roman Law.

FACULTY OF PHARMACY

Pharmaceutics; Pharmaceutical Chemistry; Pharmacology.

FACULTY OF SCIENCE

Anatomy; Biochemistry; Botany; Chemistry; Computer Science; Geography; Geology; Home Economics and Dietetics; Mathematics and Applied Mathematics; Microbiology and Hygiene; Pedology; Physics; Physiology; Psychology; Statistics and Operational Research; Technical Subjects; Theory of Science; Zoology.

FACULTY OF THEOLOGY

Diaconiology; Dogmatological Group of Subjects; Ecclesiastical Group of Subjects; Missiology; New Testament; Old Testament.

UNIVERSITY OF PRETORIA (Afrikaans-medium)

FACULTY OF AGRICULTURAL SCIENCES

Agrarian Extension; Agricultural Economics; Animal Science; Biochemistry; Entomology; Food Science; Genetics; Horticulture; Microbiology and Plant Pathology; Plant Production; Soil Science and Plant Nutrition.

FACULTY OF ARTS

Afrikaans and Netherlands Cultural History; Afrikaans; Anthropology; Archaeology; Bantu Languages; Criminology; Drama; Economics; English; Fine Arts; Geography; German; Greek; History; History of Art; Indigenous Law; Latin; Legal History, Comparative Law and Legal Philosophy; Library Science and Information Science; Mathematics; Music; Philosophy; Physical Education; Political Science and International Politics; Psychology; Public Administration; Romance Languages; Roman-Dutch Law and International Private Law; Semitic Languages; Social Work; Sociology; Speech Therapy and Audiology; Statistics.

FACULTY OF DENTISTRY

Community Dentistry; Conservative Dentistry; Diagnostics and Röntgenology; Maxillo, Facial and Oral Surgery; Oral Pathology and Oral Biology; Orthodontics; Periodontics and Oral Medicine; Prosthetics and Dental Techniques.

FACULTY OF ECONOMIC AND POLITICAL SCIENCES

Accountancy and Auditing; Business Economics; Economics; Management; Mercantile and Labour Law; Political Science and International Politics; Psychology; Public Administration; Statistics.

FACULTY OF EDUCATION

Didactical Pedagogics and Subject Didactics; Fundamental Pedagogics; Historical and Comparative Pedagogics; Orthopedagogics; Physical Education; Psychological and Sociological Pedagogics; School Guidance.

FACULTY OF ENGINEERING

Agricultural Engineering; Chemical Engineering; Civil Engineering; Electrical Engineering; Electronic Engineering; Materials Science and Metallurgical Engineering; Mechanical Engineering; Mining Engineering; Production Engineering; Surveying and Town and Regional Planning.

FACULTY OF LAW

Criminal Law; Indigenous Law; Legal History, Comparative Law and Legal Philosophy; Mercantile and Labour Law; Procedural Law and Law of Evidence; Public Law; Roman-Dutch Law and International Private Law.

FACULTY OF MATHEMATICS AND SCIENCE

Anatomy; Applied Mathematics; Architecture; Biochemistry; Botany; Building Management; Chemistry; Computer Science; Entomology; Genetics; Geography; Geology; Home Economics and Dietetics; Materials Science and Metallurgical Engineering; Mathematics; Microbiology and Plant Pathology; Physics; Physiology; Quantity Surveying; Statistics; Zoology.

FACULTY OF MEDICINE

Anaesthetics; Anatomical Pathology; Anatomy; Cancer Chemotherapy; Chemical Pathology; Community Health; Family Doctor Practice; Forensic Medicine; Haematology; Internal Medicine; Medical Microbiology; Medical Virology; Nuclear Medicine; Nursing; Obstetrics and Gynaecology; Ophthalmology; Orthopaedics; Otorhinolaryngology; Paediatrics; Pharmacology; Physiology; Psychiatry; Radiodiagnosis; Radiotherapy; Surgery; Urology;
Divisions: Dermatology; Neurology; Occupational Therapy; Physical Medicine; Physiotherapy.

FACULTY OF THEOLOGY (DIVISION A)

Dutch Reformed Church of Africa (Nederduitsch Hervormde Kerk van Afrika): Church History; Dogmatics and Christian Ethics; New Testament Science; Old Testament Science; Practical Theology; Science of Religion and Science of Mission.

FACULTY OF THEOLOGY (DIVISION B)

Dutch Reformed Church (Nederduits Gereformeerde Kerk): Church History; Dogmatics and Christian Ethics; New Testament Exegesis and Theology; Old Testament Exegesis and Theology; Practical Theology; Science of Religion and Science of Mission.

FACULTY OF VETERINARY SCIENCE

Anatomy; Contagious Diseases; Genesiology; Medicine; Parasitology; Pathology; Physiology, Pharmacology and Toxicology; Surgery; Veterinary Public Health; Zootechnology.

RAND AFRIKAANS UNIVERSITY (Afrikaans-medium)

FACULTY OF ARTS

Afrikaans-Nederlands; Anthropology; Bantu Languages; Biblical Studies; Classics; Communication; Development Studies; English; General and Applied Linguistics; Geography; German; History; History of Art; Library and Information Science; National Strategy; Philosophy; Political Science; Psychology; Romance Languages; Semitic Languages; Social Work; Sociology.

FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES

Accounting; Business Economics; Economics; Industrial Psychology; Manpower Strategy; Mineral Economics; Statistics; Transport Economics.

FACULTY OF EDUCATION

Education; Nursing; Subject Didactics and fields requiring dexterity; Teaching Science.

FACULTY OF ENGINEERING

Laboratories: Energy; Kibernetics; Materials; Systems.

FACULTY OF LAW

Indigenous Law; Mercantile Law; Private Law; Public Law.

FACULTY OF SCIENCE

Biochemistry; Botany; Chemistry; Computer Science; Experimental and Theoretical Physics; Geography; Geology; Mathematics; Optometry; Statistics; Zoology.

RHODES UNIVERSITY (English-medium)

FACULTY OF ARTS

African Languages; Afrikaans en Nederlands; Anthropology; Classics; Economics and Economic History; English; Fine Art; French and Italian; Geography; German; History; Journalism and Media Studies; Librarianship; Linguistics and English Language; Music and Musicology; Philosophy, Physical Education, Political Studies; Psychology; Sociology and Industrial Sociology; Speech and Drama.

FACULTY OF COMMERCE

Accounting; Business Administration; Economics and Economic History.

FACULTY OF DIVINITY

Divinity

FACULTY OF EDUCATION

Education

FACULTY OF LAW

Law

FACULTY OF PHARMACY

School of Pharmaceutical Sciences

FACULTY OF SCIENCE

Chemistry and Biochemistry; Computer Science; Geography, Geology; Ichthyology and Fisheries Science; Mathematical Statistics; Mathematics (Pure and Applied); Microbiology; Physics and Electronics; Plant Sciences; Psychology; Zoology and Entomology.

FACULTY OF SOCIAL SCIENCE

Anthropology; Economics and Economic History; Political Studies; Psychology; Social Work; Sociology and Industrial Sociology.

UNIVERSITY OF SOUTH AFRICA (Both media)

FACULTY OF ARTS

African Languages; Afrikaans en Nederlands; Anthropology and Indigenous Law; Classics; Communication; Criminology; Development Administration and Politics; English; Geography; German; History; History of Art and Fine Arts; Library Science and Information Science; Linguistics; Musicology; Nursing Science; Philosophy; Political Sciences; Psychology; Romance Languages; Russian; Semitics; Social Work; Sociology.

FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES

Accounting; Applied Accountancy; Auditing; Business Economics; Economics; Industrial Psychology; Quantitative Management; Transport Economics; School for Business Leadership.

FACULTY OF EDUCATION

Didactics and Comparative Education; Empirical Education; Fundamental Pedagogics; History of Education; Orthopedagogics.

FACULTY OF LAW

Constitutional and International Law; Criminal and Procedural Law; Legal History, Comparative Law and Legal Philosophy; Mercantile Law; Private Law.

FACULTY OF SCIENCE

Chemistry; Computer Science and Information Systems; Mathematics, Applied Mathematics and Astronomy; Physics; Statistics.

FACULTY OF THEOLOGY

Church History; Missiology and Science of Religion; New Testament; Old Testament; Practical Theology; Systematic Theology and Theological Ethics.

UNIVERSITY OF STELLENBOSCH (Afrikaans-medium)

FACULTY OF AGRICULTURE

Agricultural Economics; Agronomy and Pasture Science; Animal Science; Biochemistry; Biometry; Enology; Entomology; Food Science; Genetics; Hortology; Human and Animal Physiology; Microbiology and Virology; Plant Pathology; Poultry Science; Sheep and Wool Science; Soil Science and Agricultural Hydrology; Viticulture.

FACULTY OF ARTS

African Studies; Afrikaans Cultural History; Afrikaans en Nederlands; Anthropology; Archaeology; Bantu Languages; Biblical Studies; Development Administration; Drama; English; Fine Art; French; General Linguistics; Geography; German; Greek; History; Italian; Journalism; Latin; Library and Information Science; Music; Philosophy; Political Philosophy; Political Science and Public Administration; Psychology; Semitic Languages; Social Work; Sociology; Town and Regional Planning.

FACULTY OF COMMERCE AND ADMINISTRATION

Accounting; Business Economics; Business Management and Administration; Economics; Industrial Psychology; Shorthand and Typing; Statistics; Transport Economics.

FACULTY OF DENTISTRY

Community Dentistry; Conservative Dentistry; Dental Prosthetics; Maxillo, Facial and Oral Surgery; Oral Biology; Oral Medicine and Periodontology; Oral Pathology; Orthodontics; Maxillo-facial Radiology.

FACULTY OF EDUCATION

Afrikaans; Didactics; Educational Administration; Comparative Education and History of Education in South Africa; Educational Psychology; English; Fundamental Education and History of Education; Physical Education; School Art; School Music;
Division Orthopedagogics and Special Education.

FACULTY OF ENGINEERING

Applied Mathematics; Chemical Engineering; Civil Engineering; Electrical and Electronic Engineering; Mechanical Engineering; Metallurgical Engineering; Production Engineering.

FACULTY OF FORESTRY

Nature Conservation; Silviculture; Wood Science.

FACULTY OF LAW

Mercantile Law; Private Law and Roman Law; Public Law.

FACULTY OF MEDICINE

Anaesthetics; Anatomical Pathology; Anatomy and Histology; Cardio-Thoracic Surgery; Chemical Pathology; Community Health; Dermatology; Family Doctor Practice; Forensic Medicine; Internal Medicine; Medical Microbiology; Medical Physiology and Biochemistry; Neurosurgery; Obstetrics and Gynaecology; Ophthalmology; Orthopaedics; Otorhinolaryngology; Paediatrics; Pharmacology; Plastic and Reconstructive Surgery; Psychiatry; Radiodiagnosis; Radiotherapy; Surgery (general); Urology; Virology;
Hospital Dietetics; Nursing; Occupational Therapy; Physiotherapy.

FACULTY OF MILITARY SCIENCE

Accounting (Mil.) and Auditing (Mil.); Aeronautics; Business Economics (Mil.); Computer Systems (Mil.); Economics (Mil.); Industrial Psychology (Mil.); Mathematics (Mil.); Mercantile Law (Mil.) and Criminal Law (Mil.); Military Geography; Military History; Naval Navigation; Physics (Mil.); Political Science (Mil.) and Public Administration (Mil.).

FACULTY OF SCIENCE

Biochemistry; Botany; Chemistry; Computer Science; Geology; Home Economics; Human and Animal Physiology; Mathematics; Physics; Zoology.

FACULTY OF THEOLOGY

Diaconiological Subjects; Dogmatological Subjects; Ecclesiological Subjects; Missiology; New Testament Subjects; Old Testament Subjects.

VISTA UNIVERSITY (English-medium)

FACULTIES: Arts, Economic and Management Sciences, Education.

DEPARTMENTS

Accountancy; African Languages; Afrikaans; Business Economics; Commercial Law; Economics; Education; English; Geography; History; Mathematics; Psychology; Sociology.

CAMPUS FOR FURTHER TRAINING OF TEACHERS

Accountancy; Afrikaans; Biblical Studies; Biology; Education; English; Geography; History; Home Economics; Mathematics; Physical Science.

UNIVERSITY OF THE WESTERN CAPE

FACULTY OF ARTS

Afrikaans en Nederlands; Anthropology; Arabic; Biblical Studies; Economics; English; French; Geography and Environmental Studies; German; Hellenistic Greek; History; Human Ecology; Industrial Psychology; Latin; Library and Information Science; Linguistics; Mathematics; Music; Nursing; Philosophy; Physical Education; Political Science; Psychology; Public Administration; Semitics; Social Work; Sociology; Xhosa.

FACULTY OF DENTISTRY

Anatomy; Community Dentistry; Conservative Dentistry; Dental Prosthetics; Medical Microbiology; Occupational Therapy; Oral Medicine and Periodontics; Oral Surgery and Roentgenology; Orthodontics; Pathology Anatomy and Oral Pathology; Physiology Sciences; Physiotherapy.

FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES

Accounting; Business Economics (includes Typing, Shorthand, Snelskrif); Economics; Industrial Psychology; Political Science; Public Administration; Statistics.

FACULTY OF EDUCATION

Child Guidance and Remedial Teaching; Comparative Education; Didactics and Educational Practice; Educational Psychology and Sociology of Education; Philosophy and History of Education; Special Education.

FACULTY OF LAW

Comparative Law and International Law; Mercantile Law; Private Law; Public Law and Adjective Law.

FACULTY OF SCIENCE

Applied Mathematics; Biochemistry; Botany; Chemistry; Computer Science; Geography and Environmental Studies; Geology; Mathematics; Pharmaceutical Chemistry; Pharmaceutics; Pharmacology; Physics; Physiology; Plant Pathology; Statistics; Zoology.

FACULTY OF THEOLOGY

Diaconiology; Ecclesiastical History; New Testament; Old Testament; Missiology; Systematic Theology.

UNIVERSITY OF THE WITWATERSRAND (English-medium)

FACULTY OF ARCHITECTURE

Architecture; Building; Quantity Surveying; Town and Regional Planning.

FACULTY OF ARTS

African Languages; Afrikaans and Nederlands; Archaeology; Classics; Comparative Literature; Divinity; School of Dramatic Art; Economics; Education; English; Fine Arts; French; Geography and Environmental Studies; German Studies; Hebrew Studies; History; History of Art; International Relations; Italian; Librarianship and Information Science; Linguistics; Mathematics; School of Music; Philosophy; Political Studies; Portuguese; School of Psychology (Experimental Psychology, Applied Psychology, Industrial Psychology); Russian Studies; Social Anthropology; School of Social Work; Sociology; Speech Pathology and Audiology; Graduate School for Translators and Interpreters.

FACULTY OF BUSINESS ADMINISTRATION

Graduate School of Business Administration.

FACULTY OF COMMERCE

Accounting; Business Economics; Economics.

FACULTY OF DENTISTRY

Community Dentistry; Conservative Dentistry; Experimental Odontology; General Anatomy; General Physiology; Oral Medicine and Periodontology; Oral Pathology; Orthodontics; Prosthetic Dentistry; Surgery.

FACULTY OF EDUCATION

Education.

FACULTY OF ENGINEERNG

Chemical Engineering; Civil Engineering; Electrical Engineering; School of Mechanical Engineering; Metallurgy; Mining Engineering; Surveying.

FACULTY OF LAW

School of Law

FACULTY OF MEDICINE

Anaesthesia; Anatomical Pathology; Anatomy; Chemical Pathology; School of Community Health; Experimental and Clinical Pharmacology; Forensic Medicine; Haematology; Human Genetics; Immunology; Medical Biochemistry; Medical Microbiology; Medical Physics; Medicine; Nuclear Medicine; Nursing Education; Obstetrics and Gynaecology; Occupational Therapy; Ophthalmology; Orthopaedic Surgery; Paediatrics and Child Health; School of Pathology; Physiology; Physiotherapy; Psychiatry and Mental Hygiene; Radiology (Diagnostic); Radiology (Therapeutic); Surgery; Tropical Diseases; Virology.

FACULTY OF SCIENCE

Anatomy; Applied Mathematics; Archaeology; Biochemistry; Botany; Chemistry; Computer Science; General Anatomy; General Physiology; Genetics; Geography and Environmental Studies; Geology; Geophysics; Mathematics; Microbiology; Palaeontology and Palaeoenvironmental Studies; Physics; Physiology; School of Psychology; Statistics; Zoology.

UNIVERSITY OF ZULULAND (English-medium)

FACULTY OF ARTS

Afrikaans; Anthropology and Development Studies; Bantu Languages; Classics; Communication Science; Criminology; English; French; Geography; German; History; Library Science; Music; Nursing Science; Philosophy; Psychology; Social Work; Sociology; Speech and Drama.

FACULTY OF ECONOMIC AND POLITICAL SCIENCES

Accountancy and Auditing; Business Economics; Economics; Political Science and Public Administration; Industrial Psychology.

FACULTY OF EDUCATION

Didactics; Educational Planning and Administration; Educational Psychology; History of Education and Comparative Education; Philosophy of Education.

FACULTY OF LAW

Constitutional Law; Criminal and Procedural Law; Mercantile Law; Private Law; Zulu Law.

FACULTY OF SCIENCE

Applied Mathematics; Biochemistry; Botany; Chemistry; Geography; Geology; Home Economics; Hydrology; Mathematical Statistics; Mathematics; Physics; Zoology.

FACULTY OF THEOLOGY

Biblical Studies; Church History; Diaconiology and Ecclesiastical Subjects; Dogmatics and Ethics; New Testament; Old Testament; Science of Mission and Science of Religion.

INSTITUTE FOR PUBLIC SERVICE AND VOCATIONAL TRAINING

Law; Organisation and Method Study; Public Administration; Public Finance and Auditing.

CHAPTER 3

ADMISSION TO UNIVERSITY, FIELDS OF STUDY, QUALIFICATIONS AND VOCATIONAL SERVICE

ADMISSION TO UNIVERSITY

The Joint Matriculation Board

Every education department has its own system of external senior certificate examination, but admission to university is controlled by the Joint Matriculation Board (JMB). This statutory body was constituted to control and conduct the matriculation examinations of the universities in the RSA, and consists, inter alia, of representatives of the universities and the education departments.

A full and official statement of the matriculation requirements of the South African universities is contained in the Matriculation Examination Handbook published annually by the JMB (see list of addresses). It is important to note that the prescriptions in this Handbook are altered from time to time and even from year to year. However, in order to provide a guideline, particulars on the current position for 1985 are briefly discussed in this section.

The qualification for entrance to a course of study for a first degree at any university in South Africa is a Matriculation Certificate of the JMB, or a certificate of exemption issued by the Board. However, the various education departments conduct examinations for a Senior Certificate based on syllabuses approved by the Board. These examinations are recognised by the JMB for exemption from its own matriculation examination, subject to conditions prescribed by the Board.

A successful candidate at the matriculation examination of the JMB may be awarded either a School-leaving Certificate or a Matriculation Certificate, depending on the subjects passed, the standards attained in specific subjects and aggregate marks. Likewise, candidates who wrote the senior certificate examininations of the various education departments may be awarded either a Senior Certificate or a Senior Certificate (Matriculation Exemption). The conditions for obtaining a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) are the same in both cases.

SUBJECTS

The groups of approved subjects for the Matriculation Certificate and the Senior Certificate (Matriculation Exemption) which differ from those for the School-leaving Certificate and the Senior Certificate, are as follows (H = Higher Grade; S = Standard Grade):

A. Afrikaans First Language H; Afrikaans Second Language H; English First Language H; English Second Language H

B. Mathematics H or S

C. Biology H or S; Physical Science H or S

D. Afrikaans Second Language S (may only be offered by immigrants and Black candidates); any Bantu language First Language H selected from Northern Sotho, Southern Sotho, Tsonga, Tswana, Venda, Xhosa and Zulu; any Bantu language S selected from Northern Sotho, Southern Sotho, Tsonga, Tswana, Venda, Xhosa and Zulu; English Second Language S (may only be offered by immigrants and Black candidates); French H; German H (Mother Tongue); German H (3rd Language); Greek S; Hebrew H; Italian S; Latin H; Portuguese S; Spanish S

E. Biblical Studies H or S; Economics H or S; Geography H or S (if not offered under Group F); History H or S

F. Accounting H or S; Additional Mathematics H (not to be taken without Mathematics H and only by candidates taking 7 subjects); Agricultural Science H or S; *Art H or S; Business Economics S; Commercial Mathematics S (not to be offered with Mathematics H or S); Geography H or S (if not offered under Group E); *Home Economics H or S; *Music H or S; Shorthand S; Snelskrif S; Speech and Drama S; Technical Drawing H or S; Typing S.

* May not be offered by private candidates.

Note: ADDITIONAL SUBJECTS

See Appendix A for subjects not included in the Board's list of subjects for the Matriculation Certificate which are recognised for exemption purposes when passed at other examinations.

ISSUE OF MATRICULATION CERTIFICATE

A Matriculation Certificate shall be issued to a candidate who, at one and the same examination -

a. offered not fewer than six and not more than seven subjects, selected from Groups A to F but including at least one subject from each of four different groups;

b. passed in at least five subjects (H = 40 %; S and second language H = 33 1/3 %);

c. obtained the minimum aggregate of 950 marks;

d. subject to provisos (iv), (v) and (viii) below, passed -

- in one official First Language H and
- in the other official First or Second Language H;

e. included amongst the five subjects passed, at least one subject from each of four different groups or two subjects from Group C or Group E and one subject from each of two other groups;

f. passed in at least three subjects H, of which, subject to provisos (iv) and (v), one shall be an official First Language H and the other two, subject to provisos (vi) to (x), shall have been selected from two of Groups B, C, D, E and F;

g. obtained at least 20 % in the sixth subject:

Provided that -

(i) a candidate offering six subjects may not offer more than four languages and a candidate offering seven subjects may not offer more than five languages;

(ii) a candidate may not offer the same subject on both the Higher and the Standard Grade;

(iii) as regards the groups of subjects -

(aa) Xhosa and Zulu; and
(bb) Northern Sotho, Southern Sotho and Tswana; not more than one language may be offered from the same group;

(iv) only a candidate whose home language is a Bantu language, may offer a Bantu language on the First Language Higher Grade as a subject from Group A, on condition that he also offers and passes at least one of the official languages from Group A on at least the Second Language Higher Grade level;

- if the candidate offers and passes his home language, as well as both the official languages on at least the Second Language Higher Grade level, any one of the official languages may be deemed to be a subject from Group D;

- if the candidate offers and passes his home language, as well as both the official languages on at least the Second Language Higher Grade level and obtains at least 40 % in one of the official languages, the language in which 40 % or more has been obtained can be deemed to be a recognised Higher Grade subject from Group D for the purposes of paragraph f.;

- if the candidate offers his home language as well as both the official languages, he may offer one of the official languages on the Second Language Standard Grade level as a recognised subject from Group D for purposes of paragraph a, and if he obtains at least 40 % therein, he will be deemed to have passed in a recognised subject for purposes of paragraph b. and e.;

(v) only a candidate whose home language is German, who is attending a school in South-West Africa and whose parents are or were domiciled in South-West Africa, may offer German H (Mother Tongue) as a subject from Group A, provided he also offers both Afrikaans and English, one of which shall be First Language H, and passes in both Afrikaans and English on at least Second Language Higher Grade level: provided further that such a candidate may offer any one of the official languages from Group A as a subject under Group D;

(vi) any candidate offering Agricultural Science H, Accounting H or Technical Drawing H for purposes of paragraph f., shall pass in Mathematics on at least Standard Grade;

(vii) any candidate offering Home Economics H for purposes of paragraph f., shall pass in Mathematics or a natural science subject selected from Group C on at least the Standard Grade;

(viii) except as provided for by proviso (iv) in respect of candidates whose home language is a Bantu Language, Second Official Language H shall not be recognised as a Higher Grade subject for purposes of paragraph f.;

(ix) Additional Mathematics H shall under no circumstances be recognised for purposes of paragraph f.; and

(x) as regards the subject Geography, such subject included in more than one group shall not be recognised under more than one group for purposes of paragraphs a, e and f.

Note

1. A series of prescriptions by the JMB makes provision, inter alia, for

   - completion of requirements for the Matriculation Certificate;
   - full exemption of the Matriculation Certificate on the grounds of other certificates obtained, and the conversion of certificates of partial and conditional exemption into full exemption;
   - issuing of a Matriculation Certificate to bona fide part-time candidates, and to immigrants;
   - partial exemption on the grounds of other examinations passed;
   - conditional exemption on the grounds of other examinations passed or mature age, as well as exemption on the grounds of medical or physical disability.

2. Although the Board's Matriculation Certificate or a certificate of exemption is the normal requirement for admission to a university, certain subjects and pass marks are prescribed by the universities as prerequisites for enrolment in some departments or faculties.

POSTGRADUATE DEGREES

Honours degrees

Among the Honours degrees offered by the universities two groups may be clearly differentiated, viz

- Honours degrees for academic enrichment

  After obtaining a Bachelor's degree a student may be admitted to the degree of Bachelor with Honours after one year of full-time study or two years of part-time study in one of the major subjects taken for the Bachelor's degree.

- Honours degrees which are vocationally orientated

  In this case the curriculum consists of subjects which were not included in the prerequisite degree, e.g. Hons. B. Journalism for which the admission requirement is a Bachelor's degree in any faculty, and the Hons. B.Sc. in Nature Conservation.

The Honours examination consists of such written papers and such practical, oral and other tests as may be prescribed.

In certain fields of study where a Bachelor's degree course extends over four or five years of study, or in the case of a second or advanced Bachelor's degree such as the B.Ed. and the B.Th. degree, no Honours degree study is offered, as these degrees are regarded as being equivalent to an Honours degree. Students who hold these degrees may proceed directly to Master's degree study.

Master's degrees

Normally, only students holding an Honours degree will be accepted as candidates for Master's degrees. Students holding a Bachelor's degree will be accepted only in exceptional cases.

The Master's degrees may be divided into three groups.

- The Academic Master's degree may be described as a degree which has been conferred for advanced study in a subject field which has already been studied up to Honours level.

A candidate for a Master's degree must have been a registered student for at least one year, during which time he has undertaken advanced study, or an approved research project, or both, under the guidance of a supervisor or study leader appointed by the Senate of the university concerned.

The examination usually consists of a dissertation showing acquaintance with the methods of research, or of written papers, or both, as the Senate may prescribe. In some fields of study e.g. Fine Art, Architecture, Music, the rules for the Master's degree may provide for other forms of examination.

A subgroup of the academic Master's degrees, usually leading to registration with a professional council, are for example, the degrees of M.A. (Clinical Psychology) and the M.A. (Counselling Psychology). Their curricula comprise class work, practical experience and training under the guidance of qualified and registered professional persons at a recognised institution.

A further subgroup includes the Master's degrees in Medicine, viz M.Med. which is the specialist's qualification recognised by the S.A. Medical and Dental Council. The training consists of theoretical, clinical and practical tuition while the candidate occupies a post at a hospital. A candidate has to submit a research report and undergo a written and/or oral examination.

- Professional Master's degrees are awarded for study which was undertaken on a postgraduate basis in fields which were not necessarily studied in the prerequisite study programme, e.g. M.B.A., M.A. (Translation), M.C.R.P., M.T.R.P., Master in Personnel Management.

Any graduate and in some cases non-graduates with professional qualifications may register for these degrees.

- The degree of M.Phil. (Master of Philosophy) offered by UCT and RAU is normally awarded for dissertations on inter-faculty topics or for work in departments where the usual Master's degree is not appropriate or where it confers a professional status.

Doctor's degrees

Doctor of Philosophy - Ph.D.: A candidate must be a graduate and have been registered as a student for at least two years. He will be required, under the direction of a supervisor, to pursue an approved course of special study or research on some subject falling within the scope of studies represented in the university. He must submit a thesis embodying the results of his special study or research. No thesis shall be accepted which does not make a distinct contribution to the knowledge or understanding of the subject and which does not afford evidence of originality shown either by the discovery of new facts or by the exercise of independent critical power.

Other Doctor's degrees: A candidate who already holds a Master's or a Ph.D. degree is required to undertake advanced original research and must present for the approval of the Senate original work in an approved field. The work, which must have been published, must constitute a distinguished contribution to the advancement of knowledge in that field.

EXPLANATORY NOTES

Course: Normally one academic year of study in a subject.

Curriculum: A particular set of courses taken for a degree or diploma.

Department: An academic department is responsible for teaching and research in a single subject (e.g. English, History, Physics, etc.) or in a group of closely related subjects (e.g. Philosophy and Political Science, Microbiology and Hygiene, etc.).

Faculty: A university body supervising a branch of learning and subdivided into a number of departments.

Major subject: A subject which a student elects to study as a core subject in his/her curriculum and which must be studied for three (in a few cases two) years in succession. For most degrees two major subjects are studied.

Registration: All new students accepted for admission, and all returning students, must register with a particular faculty for each year of study. The week preceding the beginning of the academic year is usually set aside for registration, and during that week each student's curriculum must be approved by the Dean of the Faculty.

Semester: A half-year of study.

Undergraduate: A student who is studying for a first Bachelor's degree or diploma.

FIELDS OF STUDY, DEGREES/DIPLOMAS AND VOCATIONAL SERVICE

Note: (a) In this section all the degrees, diplomas and certificates are mentioned but in most cases only the first degrees, diplomas and certificates are discussed.

(b) Consult Appendix B to G for major subjects for the B.A. and B.Sc. degrees and subjects for the B.Com. degree, as well as subjects for the B.A. Hons., B.Com. Hons. and B.Sc. Hons. degrees.

The universities which offer the degree, diploma or certificate are given in brackets in alphabetical order.

The list below denotes the abbreviation used for each university.

UCT - University of Cape Town
UDW - University of Durban-Westville
UFH - University of Fort Hare
MEDUNSA - Medical University of Southern Africa
UN - University of Natal
UNORTH - University of the North
UOFS - University of the Orange Free State
UPE - University of Port Elizabeth
PU for CHE - Potchefstroom University for Christian Higher Education
UP - University of Pretoria
RAU - Rand Afrikaans University
RU - Rhodes University
UNISA - University of South Africa
US - University of Stellenbosch
VISTA - VISTA University
UWC - University of the Western Cape
UW - University of the Witwatersrand
UZ - University of Zululand

ACCOUNTANCY/ACCOUNTING (See also COMMERCE)

Universities: All the universities except UFH, MEDUNSA and VISTA

Note: To be able to qualify as a chartered accountant, a student must pass the final qualifying examinations set by the Public Accountants' and Auditors' Board, and serve the required period under Articles of Clerkship. The prescribed period of service is five years, but a two-year remission is given to graduates.

A candidate can take either one of the following degree courses or the Certificate in the Theory of Accountancy.

FIRST DEGREES

Bachelor of Commerce and Certificate in the Theory of Accountancy: B.Com., C.T.A. (UCT)

Additional admission requirements: A pass in Mathematics HG or at least 50 % in Mathematics SG. See also COMMERCE.

Duration: Three years of full-time study for the B.Com. degree and one additional year of full-time study for the C.T.A., after which the candidate has to serve articles of clerkship with an accountant. The C.T.A. may also be completed on a part-time basis while the candidate serves articles.

A candidate may also take the B.Com. (Hons.) degree in Accounting concurrently with the C.T.A. curriculum over a period of four years of full-time study and serve articles of clerkship thereafter.

Bachelor of Accountancy: B.Acc. (UDW, UN: Pietermaritzburg)

Additional admission requirements:

UDW: A pass in Mathematics HG or at least a D symbol (50 % - 59 %) in Mathematics SG, except in the case of students who passed with an aggregate of 60 % or higher.

UN: A pass of at least 40 % in Mathematics HG or at least 60 % in Mathematics SG.

Duration

UDW: Three years of full-time study or four years of part-time study. See the Diploma in Accountancy of UDW.

UN: Four years of full-time study or five years of part-time study. See also the Diploma in Accountancy of UN.

Baccalaureus Rationis: B.R. (UNORTH)

Duration: Four years of full-time study.

Bachelor of Accounting Science: B. Compt. (UOFS)

Additional admission requirements: At least an E symbol in Mathematics HG or at least a D symbol in Mathematics SG.

Duration: Three years of full-time study or four years of extramural study. To qualify as a chartered accountant a candidate has to obtain the B.Compt. Hons. degree. See also the C.T.A.

Bachelor of Accountancy: B.Acc. (PU for CHE)

Additional admission requirements: A pass in Mathematics HG or at least 50 % in Mathematics SG.

Duration: Three years of full-time study. To qualify as a chartered accountant a candidate has to obtain the Hons.B.Acc. degree which grants admission to the qualifying examination of the Public Accountants' and Auditors' Board.

Bachelor of Economic and Management Sciences (Accounting): B.Com. (Accounting) (RAU)

Additional admission requirements: A pass of at least 40 % in Mathematics HG or at least 50 % in Mathematics SG.

Duration: Four years of part-time study. Candidates also have to obtain the B.Com. Hons. (Accounting) degree if they wish to write the qualifying examination of the Public Accountants' and Auditors' Board.

Bachelor of Accounting Science: B.Compt. (UNISA)

Additional admission requirements: A pass of at least 40 % in Mathematics HG or at least 50 % in Mathematics SG.

Duration: At least three years.

Honours Bachelor of Accounting Science: Hons. B.Compt. (UNISA)

Admission requirements: The degree of B.Compt. or another approved degree in accounting sciences, or a degree with Accounting III, Auditing II and Income Tax (including Administration of Estates).

Duration: The curriculum comprises five four-hour papers which have to passed at one and the same examination if a student wishes to satisfy the requirements of the C.T.A.

Bachelor of Accounting: B.Accounting (US)

Additional admission requirements: A student must obtain an average of at least a D symbol in the Matriculation or equivalent examination; and at least 40 % in Mathematics SG.

Duration: Three years of full-time study. After obtaining this degree a candidate takes the B.Accounting Hons. degree over a period of one year of full-time study or two years of part-time study in order to be admitted to the qualifying examination set by the Public Accountants' and Auditors' Board.

Baccalaureus Commercii (Accounting) and Baccalaureus Commercii C.T.A. (Combined): B. Com. (Accounting) and B.Com. C.T.A. (Combined) (UWC)

Additional admission requirements: A pass in Mathematics HG or SG.

Duration: Six years of extramural study.

Bachelor of Accountancy: B.Acc. (UW)

Additional admission requirements: As for the B.Com. degree. See COMMERCE.

Duration: At least five years of part-time study.

This degree meets the requirements of the Public Accountants' and Auditors' Board.

Note: Accountancy is also offered as an option for the B.Com degree by various universities. See COMMERCE.

POSTGRADUATE DEGREES

Bachelor of Commerce (Honours): B.Com.(Hons.) (UCT)
Bachelor of Commerce Honours: B.Com.Hons. (UNORTH)
Baccalaureus Computationis Honores: B.Compt.Hons. (UOFS)
Honours Bachelor of Accountancy: Honns.B.Acc. (PU for CHE)
Honours Bachelor of Economic and Management Sciences: B.Com.Hons. (RAU)
Honours Bachelor of Accounting Science: Hons.B.Compt. (UNISA)
Honours Bachelor of Accounting: B.Accounting Hons. (US)
Honours Baccalaureus Commercii: B.Com.Hons. (UWC)

Master of Commerce: M.Com. (UCT)
Master of Accountancy: M.Acc. (UN)
Master of Accounting Science: M.Compt. (UOFS, UNISA)
Master of Accounting: M.Accounting (US)
Master of Economic and Management Sciences; M.Com. (RAU)
Magister Commercii (UWC)

Doctor of Economic Sciences: D.Econ.Sc. (UCT)
Doctor of Philosophy: Ph.D. (UCT, UN, UW)
Doctor of Accounting Science: D.Compt. (UOFS, UNISA)
Doctor of Accounting: D. Accounting (US)
Doctor of Economic and Management Sciences: D.Com. (RAU)
Doctor Commercii: D.Com. (UWC)

CERTIFICATE AND DIPLOMAS

Certificate in the Theory of Accountancy: C.T.A.

Cape Town

Admission requirements: No person other than a graduate shall be registered as a part-time candidate for the Certificate unless he has produced evidence that he has either served or is serving or is about to serve under articles registered with the Public Accountants' and Auditors' Board.

A student must have completed Accounting B, Auditing A, Financial Management and Taxation and Estate Duty I or recognised equivalent courses in one examination session (including supplementary examinations) in the year preceding that in which the final year is to be taken.

Duration One year full-time, or part-time while serving articles.

Orange Free State

After passing the prescribed examinations for the B.Compt.Hons. degree, students may apply for the award of the C.T.A. in order to register for the professional examinations.

Port Elizabeth

Admission requirements: A B.Com. (Accountancy) degree or any other approved Bachelor's degree provided that the Senate may in such a case prescribe a special curriculum.

Duration: At least two years of full-time or part-time study.

A candidate who qualifies for the B.Com.Hons. degree in Accountancy Subjects obtains the C.T.A. simultaneously, provided that he has complied with all the requirements for obtaining the Certificate.

Pretoria

The C.T.A. will be awarded to graduates who have passed a number of prescribed courses. Where applicable courses taken for the B.Com.(Hons.)(Accountancy) degree will be recognised for the C.T.A.

Rhodes

Admission requirements: The B.Com. (Accounting) degree with credit in Estates.

Duration: One year.

Western Cape

Admission requirements: This Certificate may only be taken by articled clerks or persons who have completed their articles.

Duration: Five years. A student may be granted credits for all courses of the C.T.A. passed as part of the B.Com. degree at this University.

Diploma in Accountancy (Postgraduate) (UDW)

This Diploma is intended for students who are registered with or are intending to be registered with the Public Accountants' and Auditors' Board as articled clerks.

Admission requirements: A graduate who holds the B.Acc. degree or has obtained credit for all the courses listed in the curriculum of the B.Acc. degree; and has completed the following courses or equivalent courses in one examination session (including supplementary examinations) in the academic year immediately preceding the year in which the Diploma is to be taken: Accountancy III, Auditing II, Taxation and Estate Duty, Management Accounting.

Duration: One year.

Diploma in Accountancy: Dip.Acc. (UN)

Admission requirements: A graduate who has obtained credit for ten courses (Durban) or thirteen courses (Pietermaritzburg) prescribed for the B.Com. or B.Acc. degree respectively.

Duration: One year of part-time study while the student is an articled clerk.

Higher Diploma in Accountancy: H.Dip.Acc. (UW)

Admission requirements: A graduate who has been exempted from ten or more of the courses prescribed for the degree of B.Acc.

Duration: One year of full-time study or two years of part-time study.

Diploma in Theory of Accounting D.T.A. (UZ)

The D.T.A. may be issued to a student who has completed the degree of Hons.B.Com. (Accounting and Auditing) and is registered as an articled clerk with the Public Accountants' and Auditors' Board or has completed his articled clerkship.

Diploma in Public Finance and Auditing: Dip. F.A. (UZ)

(a) General or (b) Local Government

Admission requirements: A Senior Certificate.

Duration: Three years. This Diploma is offered by the University's Institute for Public Service and Vocational Training.

VOCATIONAL SERVICE: The accountancy profession plays an indispensable rôle in all types of business concerns. In the course of time, qualified persons in this field have moved from the position of ordinary bookkeeper to that of the specialized leader and financial adviser. For persons who have not been trained professionally but who hold a degree such as B.Com. or B.Admin. with Accounting as a major in combination with subjects such as Cost Accounting, Auditing, Commercial Law, Income Tax, Business Economics and Economics, there is a particularly wide variety of opportunities in the occupational field. They can become teachers in commercial subjects or enter the business world as, inter alia, accountants, auditors, credit managers, secretary-accountants, cost accountants, in the employ, for example, of commercial and industrial undertakings, municipalities, financial institutions, mines, companies, banks, building societies, insurance companies and many others. They are also employed by various government departments. Certain concerns experience a considerable demand for persons who have at least a B.Com. degree, as a result of the divergence of activities in their financial divisions. By displaying exceptional initiative drive and capacity for work, persons can, in the course of time, progress to managerial posts and posts in an executive capacity. Postgraduate study is sometimes essential for the accountant who wishes to reach the top.

More advanced study in Accounting can lead to admission to the qualifying examination of the Public Accountants' and Auditors' Board. Success in this examination, as well as the completion of a period of service as an articled clerk in the office of a public accountant and auditor, is a prerequisite for registration as a chartered accountant (C.A.). The title "C.A." is acknowledged throughout the world as a highly specialized professional qualification. This qualification opens the door to highly paid positions. The chartered accountant can operate on his own in a private practice or in partnership with other registered accountants. For example, in the Republic all public companies, banks and building societies must make use of the services of a public accountant and auditor. Otherwise, he can reach a position of prestige in a large company such as that of director, general manager, accountant, internal auditor, secretary or cost accountant. Those persons who also possess the other qualities for top leadership can rise to the position of managing director or chairman. More information concerning the C.A. qualification may be obtained directly from the Public Accountants' and Auditors' Board, P.O. Box 10119, Johannesburg 2000, or from any firm of public accountants and auditors.

As the business world becomes more complicated and many-sided, there is a corresponding increase in the demand for trained manpower with a proper grasp of commerce and industry. There are virtually unlimited opportunities for persons with analytical ability, the capacity to think logically, and sound judgement. They are also generally highly respected.

Apart from the opportunity to become a professional officer in a government department (as mentioned above), graduates are also given preference when candidates are considered for the following posts in the Public Service:

- Administrative Officer (General Administration): Graduates in possession of an appropriate B.A., B.Admin. or B.Com. degree are appointed in the entry grade. Also see Vocational services of ADMINISTRATION and COMMERCE.

- Auditor: The main purpose of a government auditor is to ensure that public funds are appropriated with care, accuracy and efficiency. Auditing is done by the Auditor-General, the various provincial auditors and their staff. The Public Service recommends that persons who are interested in this field should take the same course as suggested for an accountant. After his appointment the newcomer is not left to himself, but is thoroughly instructed in the duties of an auditor.

  With the ever increasing activities of the Public Service and the concomitant spending of public money, there are excellent promotional opportunities for an able auditor.

- Departmental Accountant (Financial Administration): Although the Treasury must ensure that financial obligations are fulfilled according to regulations, each government department also has its own financial branch which is responsible for disbursement and recoveries. The Public Service recommends that the accountant should have a suitable degree with the following subjects: Accounting as one major and one or more of the following as the other major(s): Business Economics, Economics, Commercial Law, Industrial Psychology, Cost Accounting, Roman-Dutch Law, Public Administration, Statistics, Mathematical Statistics. The remaining subjects can be included to advantage as subsidiary subjects. The uniform basis upon which government finances are administered in the Public Service makes it possible for the accountant to compete for senior positions in other government departments.

- Store Administrator (Stores Administration): The duties of the stores administrator in the Public Service are mainly concerned with the purchase and control of and the accounting for stores and equipment. After entering the service, the new official is trained in the work which he has to perform. The following subjects may be included in the degree course: Economics, Accounting, Cost Accounting, Statistics. Stores sections exist in various departments, with the result that an official's opportunities are not limited to one department only. As in other sections of the Public Service, meritorious work is adequately rewarded.

Also consult Tertiary Training for particulars on the National Diploma (State Accounts and Finance) and the National Diploma (Public Administration).

ADMINISTRATION/PUBLIC ADMINISTRATION (See also Business Administration)

Universities: UCT, UDW, UFH, UNORTH, UOFS, UPE, UP, UNISA, US, UWC, UZ

Note: UPE offers Public Administration as an option for the B.Com. degree and UNORTH and UZ offer Administration as an option for the B.Com. degree. See COMMERCE.

A number of universities offer Public Administration as a major subject for the B.A. degree. See Appendix B.

FIRST DEGREES

Administration

Baccalaureus Administrationis: B.Admin. (UDW, UWC)

Bachelor of Administration: B.Admin. (UFH, UNORTH, UZ)

Additional admission requirements:

UFH: A pass in Mathematics and a rating of 28. See PURE NATURAL SCIENCES.

UWC: A pass in Mathematics.

UZ: A pass of at least 40 % in Mathematics HG or 50 % in Mathematics SG.

Duration: Three years of full-time study. UFH offers two options, viz Public Affairs and Personnel Management

Bachelor of Administration: B.Admin. (UOFS, US)

Additional admission requirements:

US: An average of at least a D symbol in the Matriculation or equivalent examination.

Duration: Three years of full-time study or four years of part-time study.

Baccalaureus Administrationis (Public Finance): B.Admin. (Public Finance) (UDW)

Additional admission requirements: A pass in Mathematics HG or at least a D symbol (50 % - 59 %) in Mathematics SG.

Duration: Three years.

Bachelor of Administration: B.Admin. (UP)

Additional admission requirements: A pass in Mathematics.

Duration: Three years. The degree is offered in three specific fields of study, viz State Administration, Municipal Administration and International Relations.

Bachelor of Administration: B.Admin. (UNISA)

Duration: At least three years.

Public Administration

Master of Public Administration: M.Pub.Ad. (UCT)

Admission requirements: An Honours degree in the Faculty of Social Science and Humanities of the University or an equivalent Honours degree of any university.

Duration: One year of full-time study or two years of part-time study.

Master of Public Administration: M.P.A. (UDW, UOFS, UPE)

Admission requirements: A Bachelor's degree and adequate administrative experience.

Duration: Two years. At least three years at UPE.

Master of Public Administration: M.P.A. (UP)

Admission requirements: A Bachelor's degree and appropriate administrative experience, preferably in the public sector.

Duration: At least two years.

Master of Public Administration: M.P.A. (UNISA)

Admission requirements: A Bachelor's degree; at least three years' appropriate practical experience, preferably in the public sector; and credits for Public Administration III and for at least two courses in one or more of the following subjects: Economics, Industrial Psychology, African Development Administration, Political Science.

Duration: The curriculum consists of three parts. Part III consists of a dissertation of limited scope on an approved topic from any of the question papers in Public Administration taken for Parts I and II.

Honours Bachelor of Public Administration: B. in Public Administration Hons. (US)

Admission requirements: A Bachelor's degree and adequate practical experience in public administration.

Duration: Two years of extramural study.

POSTGRADUATE DEGREES

Honoris Baccalaureus Administrationis: B.Admin.(Hons.) (UDW)
Bachelor of Administration (Honours): B.Admin.(Hons.) (UFH)
Honours Bachelor of Administration: B.Admin.Hons. (UNORTH, US) or Hons.B.Admin. (UNISA, UZ)
Baccalaureus Administrationis Honores: B.Admin.Hons. (UOFS)
Bachelor of Administration Honours: B.Admin.(Hons.) (UP)
Honours Baccalaureus Administrationis: B.Admin.Hons. (UWC)

Magister Administrationis: M.Admin. (UDW, UOFS)
Master of Administration: M.Admin. (UFH, UNORTH, UP, UNISA, US, UZ)
Master of Public Administration: M.P.A. (UDW, UOFS, UPE, UP, UNISA, US) or M.Pub.Ad. (UCT)
Master of Philosophy: M.Phil. (UCT)

Doctor of Philosophy: Ph.D. (UCT)
Doctor Administrationis: D.Admin. (UDW, UWC)
Doctor of Administration: D.Admin. (UFH, UNORTH, UOFS, UP, UNISA, US, UZ)
Doctor of Public Administration: D.P.A. (UDW, UNISA, US)

DIPLOMAS

Advanced Diploma in Public Administration (UDW)

Admission requirements: A Senior Certificate and adequate administrative experience or the Diploma in Public Administration, previously offered by the University.

Duration: One or two years of part-time study.

Diploma in Public Administration: Dip. P.A. (UFH)

Admission requirements: A candidate must hold a Senior Certificate and be an official employed in the public sector.

Duration: Three years. The Diploma may be obtained in any of the following options: State Finance, Personnel Management, Organisation and Method Study, Local Government Administration.

UNORTH:

Diploma in Municipal Administration: Dipl. Mun. Admin.

Diploma in Municipal Finance: Dipl. Mun. Fin.

Diploma in Public Administration: Dipl. Public Admin.

Diploma in State Finance: Dipl. S. Fin.

Admission requirements: A Senior Certificate. Selection in consultation with government services.

Duration: Three years. Students attend classes full-time for only one semester each year.

Proficiency Certificate in Public Administration (UNORTH)

Admission requirements: Persons above the rank of administrative officer with academic qualifications acceptable to the senate of the University.

Duration: One year of part-time study. Attendance of two symposia, specifically arranged for the course, is compulsory.

Diploma in State and Municipal Administration (UOFS)

Admission requirements: A Senior Certificate.

Duration: Three years of full-time study or four years of part-time study.

Advanced Diploma in State and Municipal Administration (UOFS)

Admission requirements: Diploma in State and Municipal Administration or extensive experience which may be regarded as adequate to undertake the study profitably.

Duration: Two years.

Diploma in Advanced Public Administration: Dip. P.A. (UPE)

Admission requirements: A Senior Certificate or equivalent and adequate administrative experience.

Duration: At least two years.

Diploma in Public Administration: Dip. Admin. (UP)

Admission requirements: A Senior Certificate or equivalent and adequate experience.

Duration: Two years.

Diploma in Advanced Public Administration (UNISA)

Admission requirements: A student must be a senior guidance officer with at least three years' appropriate experience in the public sector; hold a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) or qualify for a certificate of full or conditional exemption of the matriculation examination; and complete a questionnaire for submission to and approval by the Senate. The questionnaire is available on request from the Registrar (Academic).

Duration: At least two years.

Advanced Diploma in Public Administration (US)

Admission requirements: A Senior Certificate and practical experience in public administration.

Duration: Two years of part-time study.

Note: The following diplomas and certificate are offered in the Institute for Public Service and Vocational Training of the University of Zululand:

Diploma in Local Government and Administration: Dip. L.G.A.

Diploma in Organisation and Method Study: Dip. O.M.

Diploma in Public Administration: Dip. P.A.

Admission requirements: A Senior Certificate.

Duration: Three years.

Diploma in Advanced Public Administration: Dip. A.P.A.

Admission requirements: Any one of the above-mentioned diplomas or a diploma in public finance and auditing or any qualification deemed to be equivalent to the aforementioned diplomas. A student must have already passed Public Administration III or Public Administration II and Organisation and Method Study III or Public Administration II and Public Finance III.

Duration: Two years of part-time study. The attendance of two workshops a year, specifically arranged for the course, is compulsory.

Proficiency Certificate in Leadership in Public Administration: P.C.L.A.

Admission requirements: A student must be an official of a government institution with the rank of chief clerk or equivalent or higher.

Duration: At least one academic year of part-time study. Attendance of three workshops is compulsory.

Diploma in Public Finance and Auditing: Dip. FA.

Admission requirements: A Senior Certificate.

Duration: Three years. There are two curricula, viz General and Local Government.

Diploma in Co-operative Management and Administration: Dip. C.M.A.

Admission requirements: A Senior Certificate.

Duration: Two years.

VOCATIONAL SERVICE: A broad classification of any government's duties involve legislative (political body), executive (administrative body) and judicial functions (the courts). Viewed in broad outline, there are three subject fields involved here, viz Political Science for the political aspect, Public Administration for the executive aspect and Law for the constitutional aspect. The student of Public Administration is taught, amongst other things, how state activities are administered or managed. It covers the composition and functioning of all government organizations concerned with putting public policy into practice, such as those of government departments, municipalities, councils, commissions and corporations.

For study purposes six different categories of administrative functions are distinguished, namely

- the processes for laying down the policy of public institutions;
- the steps taken by the authorities to collect money for carrying out its policy and the allocation to various institutions;
- organization of the institutions;
- the recruitment, selection, appointment and utilisation of personnel;
- stipulation of effective work methods and procedures; and
- the control measures to be adopted to determine whether the services are being rendered.

Subjects which can be taken as majors together with Public Administration include Economics, Industrial Psychology, Political Science, Accounting, Transport Economics and Anthropology.

Degrees and diplomas in this field make particular provision for the training of organizing and administrative officials who are employed by all government departments, municipalities and other public bodies such as the agricultural produce and research boards, the Transport and Postal Services, the SABC, the IDC and Iscor. It is also an extremely useful subsidiary subject for a career in journalism or law.

Postgraduate qualifications are essential to provide for the demand for professional officials such as engineers, architects, medical practitioners and others who, besides their professional work, must fulfil administrative and supervisory functions such as those of chief engineer, chief architect, hospital superintendent etc.

Also consult Tertiary Training for particulars on the National Diploma (Public Administration).

AGRICULTURE

Universities: UFH, UN (Pietermaritzburg), UNORTH, UOFS, UP, US

FIRST DEGREES

Bachelor of Science in Agriculture: B.Sc.Agric. (UFH, UN, UNORTH, UOFS)

Bachelor of Agriculture: B.Sc.Agric. (UP)

Bachelor of Science in Agriculture: B.Sc. in Agriculture (US)

Additional admission requirements:

UFH: A pass in Mathematics. A rating of 43 is required. See PURE NATURAL SCIENCES.

UN: A minimum pass mark of 40 % in Mathematics HG or 60 % in Mathematics SG, and at least 40 % in a natural science HG or 50 % SG in the subject mentioned.

UNORTH: As for the B.Sc. degree. See PURE NATURAL SCIENCES.

UOFS: A pass in Mathematics SG. It is strongly recommended that prospective students take Physical Science and Biology for the Std 10 examination.

UP: As for the B.Sc. degree. See PURE NATURAL SCIENCES.

US: At least an E symbol in Mathematics SG and a pass in a natural science SG.

Duration: Four years of full-time study.

Students select one, two or three of the following major subjects each with its own prescribed curriculum:

Agricultural Economics: UFH, UN, UNORTH, UOFS, UP, US
Agricultural Production: UFH, UN, US
Agrometeorology: UN, UOFS
Agronomy or Crop Science: UN, UOFS
Agronomy and Pasture Science: US
Animal Anatomy and Animal Physiology: UOFS
Animal and Pasture: UFH
Animal Physiology: US
Animal Production Science: UFH, UNORTH
Animal Science: UN, UP, US
Biochemistry: UN, UOFS, UP, US
Biometry: UN, UOFS, US
Crop Science or Agronomy: UN, UOFS
Crop Science and Horticultural Science: UFH
Crop Science and Soil Science: UFH
Crop Science and Weed Science: US
Dairy Science: UOFS
Enology and Viticulture: US
Entomology: UN, UOFS, UP, US
Food Science: UP, US (See also FOOD SCIENCE)
Genetics: UN, UOFS, UP, US
Grassland Science: UN
Horticultural Science: UN, UOFS, UP
Hortology: US
Irrigation: UFH
Large Stock Science: UOFS
Meat Science: UOFS
Microbiology: UN, UOFS, US
Microbiology and Plant Pathology: UP
Pasture Science: UOFS
Plant Pathology: UN, UOFS, UP, US
Plant Production: UFH, UNORTH, UP, US
Small Stock Science: UOFS
Soil Science: UFH, UN, UNORTH, UOFS, US
Soil Science and Plant Nutrition: UP

Bachelor of Agriculture: B.Agric. (UFH)

Duration: Three years. There are two options, namely Agricultural Production Sciences and Agricultural Economics/Production.

Bachelor of Agriculture: B.Agric. (UOFS)

Additional admission requirements: A pass of at least 40 % in Mathematics SG for some curricula. It is strongly recommended that prospective students take Biology for the Std 10 examination.

Duration: Three years of full-time study. There are seventeen curricula consisting of combinations of the following major subjects: Agricultural Economics; Agronomy; Animal Science; Dairy Science; Horticultural Science; Irrigation: Agronomy; Irrigation: Horticulture; Meat Science; Pasture Science; Small Stock Science; Soil Science.

Bachelor of Pedagogics: B.Ped. (UFH)

Bachelor in Agricultural Education: B.Agric.Paed. (UNORTH)

Duration: Four years of full-time study.

See EDUCATION.

Bachelor of Agriculture (Education): B.Agric. (Ed.) (UOFS, US)

Additional admission requirements:

UOFS: It is strongly recommended that prospective students take Biology for the Std 10 examination.

US: As for the B.Sc.Agric. degree.

Duration: Four years of full-time study.

Bachelor of Agricultural Management: B.Agric.Mgt. (UN)

Bachelor of Agricultural Management: B.Agric.Admin. (UNORTH)

Bachelor of Agricultural Management: B. Agricultural Management (US)

Additional admission requirements:

UN: A pass of at least 40 % in Mathematics HG or 60 % in Mathematics SG, and a pass of at least 33 % in a natural science HG or at least 40 % SG in the aforementioned subject.

UNORTH, US: As for the B.Sc.Agric. degree.

Duration: Three years of full-time study.

Bachelor of Agricultural Extension (Honours): B.Agric.Ext.(Hons.) (UFH)

Baccalaureus Honores Institutionis Agrariae: B.Inst.Agrar.(Hons.) (UP)

Admission: B.Sc.Agric. degree or B.Agric. degree (UFH) or be admitted to the status thereof.

Duration: One year of full-time study or two years of part-time study.

POSTGRADUATE DEGREES

Bachelor of Science in Agriculture (Honours): B.Sc.Agric.(Hons.) (UFH)
Bachelor of Science in Agriculture Honours: B.Sc.Agric.Hons. (UNORTH)
Baccalaureus Scientiae Agriculturae Honores: B.Sc.Agric.Hons. (UOFS)
Bachelor of Agriculture (Honours): B.Sc.(Agric.)(Hons.) (UP)
Honours Bachelor of Science in Agriculture: B.Sc.Agric.Hons. (US)
Bachelor of Agricultural Management (Honours): B.Agric.Mgt.Hons. (UN)
Bachelor of Agricultural Management Honours: B.Agric.Admin.Hons. (UNORTH)
Honours Bachelor of Agricultural Management: B.Agricultural Management Hons. (US)

Master of Science in Agriculture: M.Sc.Agric. (UFH, UN, UNORTH, UOFS, US)
Magister Scientiae Agriculturae: M.Sc.Agric. (UOFS)
Master of Agriculture: M.Sc.(Agric.) (UP)
Master of Agricultural Management: M.Agric.Mgt. (UN) or M.Agric.Admin. (UNORTH, US)
Master of Agricultural Extension: M.Agric.Ext. (UFH)
Magister Institutionis Agrariae: M. Inst. Agrar. (UP)

Doctor of Science in Agriculture: D.Sc.Agric. (UFH, UN, UNORTH, US)
Doctor Scientiae: D.Sc. (UOFS)
Doctor of Philosophy: Ph.D. (UN)
Philosophiae Doctor: Ph.D. (UOFS)
Doctor of Agriculture: D.Sc.(Agric.) (UP)
Doctor Institutionis Agrariae: D.Inst.Agrar. (UP)
Doctor of Philosophy in Agricultural Management: Ph.D.Agric.Admin. (UNORTH)
Doctor of Philosophy in Agriculture: Ph.D.Agric. (UNORTH)
Doctor of Philosophy (Agriculture): Ph.D.(Agric.) (US)
Doctor of Philosophy (Agricultural Management): Ph.D. (Agric.Admin.) (US)

DIPLOMAS

Diploma in Agricultural Extension and Rural Development (UFH)

Admission requirements: A Senior Certificate and at least two years' approved relevant experience, or at least a Std 8 Certificate plus a two-year agricultural college diploma together with at least five years' experience in agricultural extension and/or rural development work.

Duration: Two years of part-time study.

Diploma in Agricultural Education: Dipl.Agric.Paed. (UNORTH)

Admission requirements: A Senior Certificate.

Duration: Three years of full-time study.

Higher Diploma in Education (Secondary) (Agriculture): H.D.E. (Secondary) (Agriculture) (US) See EDUCATION.

VOCATIONAL SERVICE: Research into improved, more productive and more economic methods of primary food production is one of the major fields of labour for graduates in Agriculture. This is why agriculture offers such a wide variety of possibilities, not only in farming itself, but in commerce, industry, research, teaching, conservation and other specialised services. Occupations are steadily becoming specialised and, in many cases, professional training at university level has become necessary, particularly as regards the non-farming aspect of agriculture. The courses offer a basis for research and its practical application. In industries, for example, factories which manufacture agricultural requisites, agriculture graduates are appointed in the posts of technical service officers, sales representatives, research officers, production guidance officers and many more. However, it should be stressed that the attainment of a Bachelor's degree is merely the first step in the direction of professional training. Postgraduate study is particularly important in the field of research. It is of equal importance that candidates should consider well beforehand what subjects they want to study for a particular field, or, conversely, that they should have certainty about the job prospects if they have specific subjects in mind.

The following are some of the major fields of study or subjects and an indication of job opportunities:

Agricultural Economics as a science concerns the analysis of all facets of agriculture with regard to the supply of and demand for agricultural products. In other words, all aspects of the production possibilities, cost factors, financing, marketing legislation, record keeping and administration relating to agriculture are examined, including agricultural institutions.

Graduates in Agricultural Economics are offered a wide range of career opportunities in the private and public sectors and employers include the Department of Agricultural Economics and Marketing, private institutions such as the SAAU, NAMPO, agricultural co-operatives and control boards, fertilizer companies and manufacturers of agricultural equipment.

Agricultural Education: Qualified teachers of agriculture are employed by the education departments for appointment to secondary schools to which an agricultural field of study is attached. Teacher training, in addition to postgraduate qualifications is an ideal combination for posts at agricultural colleges, technikons and universities. Teachers of agriculture who have the necessary experience, may also be appointed by the Department of National Education as Land Service Officers. In this capacity they act as organizers for the Land Service Movement and they have to promote the interests of this movement.

Agricultural Engineering: See Engineering.

Agricultural Management: The degree in agricultural management is intended for candidates who plan to go farming, to gain employment as farm managers or work in some form of business that is closely associated with farming. The degree course blends agricultural and biological courses with commercial courses and agricultural economics. The student thus acquires a broad background in most aspects relating to the farming business.

Agrometeorology is the science concerning the effect of the weather and climate on plant and animal life with a view to increasing production per soil and water unit. An agrometeorologist conducts research on the effect of the weather on all aspects of agricultural production, including agricultural planning and management, and undertakes weather forecasts for agricultural purposes. Agricultural meteorologists in the Department of Agricultural Economics and Marketing conduct research over a wide field and on a variety of specialized branches such as radiation, movement of air, heat, moisture and climatic conditions. They normally act in co-operation with researchers in other branches of agriculture. Consequently the entire field from basic research to practical application of knowledge is covered.

Although it is a new branch of study, Agricultural Meteorology has become one of the most vital branches of meteorology in South Africa. It offers interesting employment and research opportunities owing to the country's extremes of heat, cold, rain and droughts, as well as sunshine, frost, hail and even snow. Researchers therefore have the opportunity of making an important contribution in the field of agriculture. Furthermore, the faculties of agriculture of the two universities concerned offer positions as lecturers to qualified agricultural meteorologists.

Agronomy or Crop Science concerns all aspects of the cultivation of crops, including requirements in respect of soil, climate and moisture; soil preparation; fertilisation, planting techniques; choice of cultivar; weed control; pest control; harvesting techniques and irrigation.

Agronomists can use their knowledge in the farming practice or as researchers and extension officers for government or semigovernment institutions, co-operatives and fertilizer companies, as well as in the manufacturing of machinery and implements.

Animal Anatomy and Physiology involves the basic study of the anatomic build and structure of the farm animal and the extensive study of the different physiological processes related to important production factors such as growth, reproduction and lactation.

Animal physiologists are particularly well equipped for careers in practical stockfarming. They can also be employed as consultants or researchers in the service of firms which produce feed, co-operatives, nutrition research institutes and laboratories; as professional officers attached to institutes where biological and/or biochemical research is done, such as in the Department of Agriculture and Water Supply.

Also see Animal Science.

Animal Production/Animal Science: Animal Science is the science of stockfarming, including all aspects of production, production science and marketing. It involves the study of production systems for beef cattle, dairy cattle, sheep, pigs, poultry and even horses and includes the feeding, breeding, physiology and reproduction as well as the care of all types of livestock. Meat science, wool science, dairy science and the production and evaluation of forage crops are subdivisions of Animal Science. The animal feed industry, stock marketing and the handling and processing of animal products are all part of the field of work of Animal Science.

There is a wide choice of career opportunities. Apart from practical animal farming there are opportunities, for example, in the employ of the control boards, private marketing organizations, cattle-feed companies, large farming companies and co-operatives. The Department of Agriculture and Water Supply offers abundant opportunities for research in various branches of Animal Science. Researchers may specialise in genetics, physiology, feeding, breeding and meat or wool technology. The most important centre for this purpose is the Animal and Dairy Science Research Institute near Pretoria. In addition, there are many professional officers who are responsible for the administration and control of national schemes.

Biochemistry: See Vocational Service of PURE NATURAL SCIENCES.

Biometry: The biometrist assists in the planning and development of research projects and is responsible for ensuring that research is conducted in such a way that the research results can be statistically analysed. He is often also involved in the actual analysis and interpretation of the results and the writing of research reports. Biometry is the ideal field of study for someone with an aptitude for mathematical statistics and an interest in the biological sciences. Biometrists usually occupy posts at agricultural, biological and medical research institutes; at universities as lecturers in Biometry as well as in Mathematical Statistics and in research departments of large commercial firms. They also enter the service of the CSIR, the SABS and the education departments. The Public Service offers various job opportunities and, particularly in the Department of Agricultural Economics and Marketing, there are opportunities of undertaking research on their own.

Dairy Science involves the basic and applied study of the physics, chemistry and microbiology of milk and milk products, as well as the handling and processing of these products. Dairy scientists can be employed as researchers by government and semigovernment institutions. Career opportunities in the dairy industry include process management, general factory management, quality control and development. Job opportunities are also available as information officers, teachers, lecturers and farmers.

Enology and Viticulture: As a result of the close connection between cultivation factors and the quality of the final product, these two major subjects are combined. Job opportunities are obviously concentrated on the wine industry and can be found as wine expert extension, inspection or research officers in the Public Service, as independent farmers or managers of vineyards; as winery managers, quality control officers, wine technologists, production managers, wine-cellar managers and so on in the wine industry.

See Vocational Service of PURE NATURAL SCIENCES for Entomology and Genetics.

Food Science: See Vocational Service of FOOD SCIENCE.

Horticultural Science (Hortology): The study of Horticulture embraces the production of horticultural crops and of the way in which the normal behaviour of plants can be changed to satisfy the requirements of man. Landscape Horticulture and Flower Production are the fields of study concerned with plants which have such particularly ornamental characteristics that, commercially and economically, they are important or may become important. Job opportunities are available as owners of a farming concern; in the service of municipalities or commercial nurseries for ornamental plants, and producers of cut flowers and pot-plants; as managers of or technical advisers to large fruit, vegetable and flower farms; as extension officers employed by the Department of Agriculture and Water Supply, the Citrus Board and companies producing agricultural chemicals and fertilizers. Students are encouraged to undertake postgraduate study in order to be employed as researchers at the research institutes under the control of the Citrus Board, the Deciduous and Dried Fruit Boards, the large fruit-growing companies, commercial firms and the Department of Agriculture and Water Supply (for Horticulture in Pretoria, for Fruit and Food Technology in Stellenbosch, for Citrus and Subtropical Fruit in Nelspruit and for Viticulture and Enology in Stellenbosch).

Irrigation: The efficient use of water is a vital part of agriculture in South Africa. This study field makes provision for the training of irrigation specialists who are well versed in Agronomy and Soil Science as well as in the engineering aspects of irrigation. Career opportunities are available in farming and in the manufacture, design, installation and evaluation of irrigation systems as well as in the management of large irrigation units. The rapid growth of this branch of agriculture and the mechanisation of irrigation systems has created a great demand for specialists in this field.

Microbiology: See Vocational Service of PURE NATURAL SCIENCES.

Pasture Science or Grassland Science: The maintenance of the natural pasture forms the basis of the livestock industry and plays an essential role in soil conservation. A pasture scientist is well versed in the ecological and physiological principles of grassland utilisation and in the practical application of management practices aimed at the retrieval, maintenance and effective use of natural and established pasture. In many cases students of Pasture Science are prospective farmers. Since they must also have an intimate knowledge of related subjects such as Animal Science, Crop Science, Soil Science, Biochemistry, Microbiology and Genetics, career possibilities will, in this case, correspond to a large extent to those for the subjects mentioned. The syllabus makes provision for basic knowledge for research which can be undertaken at any agricultural research institute of, for example, the Department of Agriculture and Water Supply, a university or a scientific, agricultural or industrial organization. Pasture scientists can also be appointed as extension officers; as lecturers at agricultural colleges and in agricultural faculties; as technical salesmen for manufacturers of agricultural chemicals, seed or food and also as managers of large agricultural enterprises.

Plant Pathology deals with plant diseases, particularly those caused by fungi, bacteria and viruses. Attention is paid to the organisms giving rise to these diseases, the factors involved in their distribution and development, and the technology and strategies required to limit any harmful effect on man as far as possible. The Department of Agriculture and Water Supply offers research opportunities for graduates in the various Research Institutes such as those for Fruit and Fruit Technology, Enology and Viticulture, Citrus and Subtropical Fruit, Horticulture and Tobacco. Apart from posts for lecturers, various universities also make ample provision for research. Certain control boards and private concerns involved in the production of for instance citrus, vegetables and sugar also offer career opportunities, as do the manufacturers of pesticides. Other employers of plant pathologists include the owners of large farms, plantations and nurseries.

Soil Science plays a role in all the facets of primary agricultural production. Soil scientists are trained in the first place to be able to identify different soil types and their uses with a view to effective farm planning and soil use. Secondly they should be able to identify through research what deficiencies are present in the soil and how to restore the necessary nutrients. This includes aspects of soil fertility, cultivation, irrigation and drainage.

A large choice of job opportunities are available for soil scientists as researchers and extension officers. In the research field the services of soil scientists are required for soil classification and soil-surveying projects undertaken by the government or by private institutions such as agricultural co-operatives and developers. Soil scientists are also used in the planning of various development projects in the engineering field, for example road building and housing schemes as well as regional development. Soil fertility studies constitute an interesting field of study that includes field experiments, pot experiments, chemical and physical soil analyses and various other advanced techniques.

Fertilizer firms also need soil scientists to carry out research projects or give advice to farmers, while large undertakings such as the sugar industry, large farming concerns, engineering firms and co-operatives need the services of soil scientists for various purposes.

ANIMAL NURSING

University: UP

DIPLOMA

Diploma in Animal Nursing: Dip.Cur.Anim.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a minimum pass mark of 40 % in Mathematics HG and Physical Science HG or Biology HG, or 50 % SG in the subjects mentioned. Only women students are admitted.

A maximum of 30 students are selected annually. Application forms, available on 1 April from the Registrar (Academic), University of Pretoria, should be submitted at the University before 31 August. Candidates should note that selection takes place on a first-come-first-accept basis.

Duration: Two years of full-time study. Lectures are given at the University's Faculty of Veterinary Science at Onderstepoort.

Students are required to do clinical work at the Faculty and in approved private practices during the two years of study.

A candidate must have mastered both official languages sufficiently to be able to follow the lectures in English as well as in Afrikaans. A candidate may choose in which language she wishes to write the examinations.

VOCATIONAL SERVICE: The Diploma in Animal Nursing offers the only formal training of veterinary nurses in the RSA. The course is intended for women only and it is the task of qualified persons to assist veterinary surgeons. The work varies and comprises, inter alia, anaesthesia, operating theatre work, intensive care nursing, medical and surgical nursing, administration and reception. Persons with this qualification may also be employed by the

University of Pretoria and Medunsa as medical veterinary nurses, theatre sisters, radiographers and diagnostic laboratory assistants, etc. Animal research centres, zoological gardens, societies for the prevention of cruelty to animals, pharmaceutical firms, dairies and kennels also provide employment opportunities to the animal nurse.

The profession requires hard, dedicated work, a long working day often with irregular hours. However, it is a rewarding task, interesting, challenging and with a high level of job satisfaction. Women who are interested in this career must be responsible, self-disciplined, be able to organise and have a sense of humour.

APPLIED LINGUISTICS

University: UFH

DIPLOMA

Diploma in Applied Linguistics

Admission requirements: B.A. degree with either (a) three courses in at least one of the following subjects: Afrikaans-Nederlands, Sotho, Xhosa, English; or (b) two courses in at least two of the aforementioned subjects; or (c) two courses in Linguistics; or (d) the candidate has had at least three years' satisfactory high school teaching experience of one of the above-mentioned languages and has completed at least two courses in one of the said languages towards the degree of bachelor.

Duration: One year. The curriculum comprises a course in Applied Linguistics and the learning of a language of which the student has no previous knowledge.

VOCATIONAL SERVICE: See General Linguistics under vocational service of ARTS.

ARCHITECTURE

Universities: UCT, UN (Durban), UOFS, UPE, UP, UW

FIRST DEGREES

Bachelor of Architectural Studies: B.A.S. (UCT)

Additional admission requirements: A pass in Mathematics HG or at least 50 % in Mathematics SG, and a pass in a science subject SG. This requirement may be waived on the evidence of special talents deemed to be contributory to the successful study of design.

Duration: Three years of full-time study.

Bachelor of Architecture: B.Arch. (UCT)

Admission: The Bachelor of Architectural Studies or a recognised equivalent three-year bachelor's degree or the completion of three years of a 5 or 6 year bachelor's degree in Architecture recognised by the Senate for this purpose.

Duration: Three years of study, the first of which is a year of external practical experience.

Bachelor of Architecture: B.Arch. (UN, UPE, UP, UW)

Additional admission requirements:

UN: A minimum pass mark of 40 % in Mathematics HG or 60 % in Mathematics SG.

UPE: A minimum pass mark of 40 % in Mathematics SG. A candidate may be required to pass a special entrance examination.

UP: A pass of at least 40 % (E symbol) in Mathematics HG and in Physical Science HG or at least 50 % (D symbol) in Mathematics SG and 40 % in Physical Science SG.

UW: A pass in Mathematics HG or at least 60 % in Mathematics SG.

Duration: Five years of full-time study and one year of practical experience under the supervision of the university.

Bachelor of Architecture: B.Arch. (UOFS)

Additional admission requirements: A pass in Mathematics SG and preferably also in Physical Science SG.

Duration: Four and a half years of full-time study. A student must be employed in the office of an architect or another approved place of training for a period of two months each year.

POSTGRADUATE DEGREES

Master of Architecture: M.Arch. (UCT, UN, UOFS, UPE, UP, UW)
Master of Philosophy: M.Phil. (UCT)

Doctor of Architecture: D.Arch. (UN, UOFS, UPE, UP, UW)
Doctor of Philosophy: Ph.D. (UCT, UN, UW)
Doctor of Science in Architecture: D.Sc.(Arch.) (UW)

VOCATIONAL SERVICE: The architect is responsible for the design, planning and ornamentation of buildings, with a view to utility, durability, beauty and convenience. His success is to a very large extent dependent on innate aptitude for and interest in both practical and artistic work. The basic role of the architect is a creative one. Supplementary to his design ability he must also master various other skills and have at his disposal extensive knowledge of a variety of subjects such as, inter alia, History of Architecture, Building Construction, Design, Environmental History, Professional Practice and Theory of Structures (applied mathematics).

An architect usually commences working for an established firm until he has sufficient capital and experience to enter a partnership with other architects or to open a practice of his own.

Public or private bodies employ architects whose tasks may include general planning, extensions and new buildings or maintenance. Architects are employed by the government departments of Public Works and Land Affairs, Education and Training, Development Aid and municipalities, SA Transport Services as well as industrial companies. With postgraduate training an architect can obtain a lecturing post at a university. Many architects work as town planners on the lay-out of new towns and cities or the redesigning of centres in existing towns and cities.

There are also female architects. The abilities demanded by architecture are by no means limited to men. If a woman has an inclination for this profession, there is no reason whatsoever why she should not be a successful architect.

Also see Landscape Architecture.

Also consult Tertiary Training for particulars on the National Diploma for Architectural Technicians.

ARTS

Universities: All the universities except MEDUNSA

FIRST DEGREES

Bachelor of Arts: B.A. (UCT, UFH, UN, UNORTH, UOFS, UP, RAU, RU, UNISA, US, VISTA, UW, UZ)

Baccalaureus Artium: B.A. (UDW, UPE, PU for CHE, UWC)

Additional admission requirements:

UCT: A pass on the Higher or Standard Grade in at least four of the following subjects: An African Language; Afrikaans, Art, Biblical Studies, Biology, Economics, English, French, Geography, German, Greek, Hebrew, Hindi, History, Italian, Latin, Mathematics, Music, Nederlands, Physical Science, Portuguese, Spanish.

In selecting applicants for admission the following criteria are used:

Admission Rating System

Rating

Symbol	Differentiated Matric		Pre-differentiated Matric
	Higher Grade	Standard Grade	
A	8	6	8
B	7	5	7
C	6	4	6
D	5	3	5
E	4	2	4
F	3	1	3

- An applicant must have obtained a minimum of five points for English or Mathematics; or a minimum of four points for each of English and Mathematics.

- If seven matriculation subjects were taken, applicants must select the six best for scoring.

- An applicant with a rating of 30 or more will be given unconditional acceptance for a study place. Applicants with ratings of 26 to 29 will be placed on a waiting list. Applicants with ratings of 25 and below cannot be accepted.

Admission to specific courses

- Economics: At least a C aggregate and a pass in Mathematics HG or at least 50 % in Mathematics SG.

- English I: At least a C symbol in English First Language HG.

- Mathematics I: At least 50 % in Mathematics HG.

- Mathematics Ia: A pass in Mathematics HG or at least 50 % in Mathematics SG.

- Psychology I: At least a C aggregate and at least a C symbol in English HG or Afrikaans HG (First Language) or in Mathematics HG. However, in cases where an overall aggregate is not officially stated, then at least a C symbol or 60 % HG in three of the school subjects listed above.

- Statistics Ic: A pass in Mathematics HG or at least 50 % in Mathematics SG.

UFH: For admission to the following courses a candidate must have attained the standard indicated in each case:

- Mathematics I: A minimum pass mark of 40 % (E symbol) in Mathematics HG or 50 % (D symbol) in Mathematics SG or Pre-differentiated.

- Statistics I: A minimum pass mark of 40 % (E symbol) in Mathematics SG or Pre-differentiated.

UN: Passes in both the official languages on the Higher Grade together with a minimum of 40 % in at least three subjects on the Higher Grade, one of which must be the First Language.

UPE: For admission to the following courses a candidate must have attained the standard indicated in each case:

- French IB: A pass in French HG or SG

- German I: A pass in German (third language) HG or a pass in German HG (mother-tongue)

- Latin I: A pass in Latin HG or SG

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- Mathematics I or Statistics I: A pass of at least 40 % in Mathematics SG.

PU for CHE: For admission to the following courses a candidate must have attained the standard indicated in each case:

- German I: A pass in German in the Std 10 examination.
- Latin I: A pass in Latin in the Std 10 examination or in Latin Special at the University.
- Physical Education: A student must ascertain beforehand whether he is medically fit.
- History of Music: A student must satisfy the Head of the Department of Music in a practical test that his standard of musical performance is equivalent to the requirements of the Intermediate Certificate of UNISA.
- Mathematics: A pass of at least 50 % in Mathematics HG or at least 60 % in Mathematics SG.

UP:

- For admission to French I, German I or Latin I a candidate must have obtained a pass in the language concerned in the Std 10 examination or a pass in the introductory course at the University.
- A candidate may not be admitted to English I unless he has obtained a pass of at least 50 % in English (Second Language Higher or Standard Grade or First Language Standard Grade) or a pass in English (First Language Higher Grade).

RAU:

- For admission to French I, German I or Latin I a candidate must have obtained a pass of at least 40 % (E symbol) in the corresponding subject on the Higher Grade or a pass in the special course in the language concerned at the University.
- Mathematics, Economics as a major subject or Statistical Methods: A minimum pass mark of 40 % (E symbol) in Mathematics HG or 50 % (D symbol) in Mathematics SG, or a pass in NTC V or T2 Mathematics, or a pass in Mathematics Special at the University.

RU:

- For admission to African Languages I, French IA, German IA or Latin IA, a candidate must have obtained a pass in that subject on the Higher Grade or the Standard Grade or an equivalent pass. However, candidates fluent in the language concerned are sometimes admitted to African Languages I without a matriculation pass.
- A candidate may not take any course in English, Afrikaans or Afrikaans/Nederlands unless he has obtained a matriculation pass in that subject in either First or Second Language Higher Grade.

UNISA:

- Afrikaans I, English I, French I, German I, Latin I, Modern Hebrew I: A pass of at least 40 % on the Higher Grade in the corresponding language.
- African languages, Greek I, Italian I, Portuguese I, Spanish I: A pass of at least 40 % on the Standard Grade in the corresponding language.

A student may offer and pass a special course in a language for admission to a first degree course in that language. A special course is a one-year beginner's course which is recognised as a full degree course.

US:

- For admission to B.A. with Law subjects a candidate must have obtained at least 50 % in Afrikaans First Language HG or English First Language HG.
- Statistics or Mathematics: A pass in Mathematics SG.

VISTA:

- An African Language: A pass on the Higher Grade in the corresponding language.
- Mathematics: A pass of at least 40 % in Mathematics HG or SG.

UWC:

- Economics II: A pass in Mathematics HG or SG.
- French I: A pass of at least 40 % in French (Third Language) HG or if the candidate's knowledge of French is recognised by the Senate as of an equivalent standard he/she may also be admitted.
- German I: A pass of at least 40 % in German (Third Language) HG or if the candidate's knowledge of German is recognised by the Senate as of an equivalent standard he/she may also be admitted.
- Mathematics IA: At least 40 % in Mathematics HG or at least 50 % in Mathematics SG.
- Mathematics IB: A pass in Mathematics HG or at least 40 % in Mathematics SG.

UW: A pass on the Higher Grade in three of the following subjects: Afrikaans First Language, Art, Bantu Language, Biology, English First Language, French, Geography, German, Hebrew, History, Latin, Mathematics, Music, Physical Science, Physiology.

Duration: Three years of full-time study or four years of part-time study.

See Appendix B for list of major subjects for B.A. (General) and Appendix E for list of B.A. (Hons.) subjects offered in the Faculty of Arts by the various universities.

See EDUCATION for degree and diploma courses for teacher training in the field of Arts.

POSTGRADUATE DEGREES

Baccalaureus Philosophiae: B.Phil. (PU for CHE)

Admission requirements: A Bachelor's degree: provided that Philosophy is not one of the major subjects.

Duration: Two years of part-time study. This degree may be taken together with another degree.

Bachelor of Arts (Honours): B.A.(Hons.) (UCT, UFH, UP) or B.A.Hons. (UN)
Honoris Baccalaureus Artium: B.A.(Hons.) (UDW)
Bachelor of Arts Honours: B.A.Hons. (UNORTH)
Baccalaureus Artium Honores: B.A.Hons. (UOFS, UPE)
Honours Bachelor of Arts: Honns.B.A. (PU for CHE) or Hons.B.A. (UNISA, UZ) or B.A.Hons. (US)
Bachelor of Arts with Honours: B.A.(Hons) (RU) or B.A.Hons. (RAU, UW)
Honours Baccalaureus Artium: B.A.Hons. (UWC)

Master of Arts: M.A. (UCT, UFH, UN, UNORTH, UP, RAU, RU, UNISA, US, UW, UZ)
Magister Artium: M.A. (UDW, UOFS, UPE, PU for CHE, UWC)

Doctor of Philosophy: Ph.D. (UCT, UN, RU, UW)
Doctor of Literature: D.Litt. (UCT, UN, UNORTH, UP, RU, UW, UZ)
Doctor Litterarum: D.Litt. (UDW, UOFS, UPE, PU for CHE, US, UWC)
Doctor of Philosophy: D.Phil. (UNORTH, UP, UZ)
Doctor Philosophiae: D.Phil. (UDW, UOFS, UPE, PU for CHE, US, UWC)
Doctor of Literature and Philosophy: D.Litt.et Phil. (UFH, RAU, UNISA)

VOCATIONAL SERVICE: The ordinary B.A. degree does not normally comprise a vocationally oriented field of study. The main objective is to equip the student with a broad background in the human sciences but also, to some extent, to prepare him or her for an occupational field. Students should therefore determine their fields of interest beforehand and choose their subjects in such a way that specialization in one or other subject field is possible and worthwhile. Furthermore, a carefully planned combination of major and subsidiary subjects, which are to a great extent determined by the student's interest and aptitude, is of great importance for the intended broad occupational field. With a view to purposeful planning, consultation with the student guidance officer of the university and possible employers in the field concerned, will definitely be worthwhile.

POSSIBLE OCCUPATIONAL VALUE OF SOME OF THE SUBJECTS

Languages (Afrikaans, English, German, French, Italian, Russian, Spanish)

Like some of the other human sciences subjects, a language does not prepare the student for any specific career. Its occupational value is more indirect, but therefore no less real. Apart from this fact, the spiritual and cultural moulding rendered by a language is invaluable, because literature is a particularly accessible treasure not only of beauty, but also of wisdom, and a more profound knowledge of a language reveals unsuspected wonders. Someone once said: "With every language acquired, one becomes reborn, obtains a new mind" (translation).

Languages normally form a good combination with a variety of other subjects, and a course with one or more languages as a basis can usually be planned without difficulty to correspond with the occupation which the student has in mind.

The value of a study of Afrikaans and English is obvious. In occupational life, in particular, it is becoming increasingly important for people to be bilingual and it is understandable that the two official languages are of specific value in the occupational field. One or more courses in these languages are required for a variety of fields of study.

- Afrikaans en Nederlands: Afrikaans is a unique language in that it developed directly from the 17th century Dutch and German vernaculars, and under the influence of the indigenous languages and cirmumstances in Southern Africa rapidly became an autonomous language.

  Numerous career opportunities are available *inter alia* in radio, television and the theatre, journalism, education, the public service, commerce, legal practice and translation.

- English, besides being one of the two official languages of our country and the only language in which many of its citizens can communicate with each other, is also one of the great languages of the world and is, of all European languages, the one most widely spoken and understood.

  There is a demand for qualified teachers of English. Critical ability and linguistic skill in both official languages is a prerequisite for careers in journalism, radio, television, theatre, advertising, public relations and related fields.

- French, like Italian and Spanish, is a Romance language. It is not spoken only by the French, but is also one of the official languages of Belgium, Switzerland, Canada and more than half the independent countries in Africa. French is a major world language. Since the French language gives expression to a refined and sophisticated culture, it is the endeavour of a large part of the civilized world to acquire at least a reading knowledge of French.

- German is a very important world language. In Europe it is spoken by more than 200 million people. The German language and culture had a marked effect on the Afrikaans and English language and culture. Knowledge of German can benefit the student in various ways: as the key towards discovering a great literary tradition; in the study of philosophy and the interpretation of religious documents; assist in obtaining access to the subject literature and to scientific publications. A reading knowledge of German is a prerequisite for a number of postgraduate courses.

- Italian: Together with Greece Italy is regarded as the cradle of the Western civilization as we know it. There are few significant trends in art, literature, philosophy, politics and economics that have not been based on Italian models. Moreover knowledge of Italian facilitates the learning of any other language of Latin origin.

- Russian: The course in Russian Studies gives information on the Soviet Union and its past as Russia, and also a knowledge of Russian. Objective knowledge of the Soviet Union and Russia and its history and culture is needed today.

  Those who reach a high level of proficiency in Russian will find professional opportunities in the field of technical translation, where there is a shortage of translators of Slavic languages. The CSIR, the army and other government departments have posts for a certain number of people with a good knowledge of Russian, especially if combined with one or more foreign languages. Russian is also an important asset in journalistic, commercial and diplomatic careers.

- Spanish: Spain has, over the centuries, given the world some of its most treasured works of art and literature. Today with its 300 million Spanish speakers, the Hispanic world - Spain, Mexico, Central and South America - constitutes a formidable cultural and economic reservoir, with a potential largely untapped. The student of Spanish obtains a working knowledge of the language and an indispensable insight into Hispanic literature and civilization.

Examples of the most important employers of graduates who majored in languages are most government departments and the provincial administrations, HSRC, CSIR, SABC, Iscor, Posts and Telecommunications, SA Transport Services, municipalities, universities, schools, colleges, aviation and other travel agencies, insurance companies, commerce and industry, libraries, publishing firms, advertising agencies, the film industry and international companies.

African Languages

The African languages (excluding Afrikaans) which enjoy recognition in the RSA can be classified in four groups as follows:

Group:	Nguni	Sotho	Tsonga	Venda
Language:	Zulu	Northern Sotho	Tsonga	Venda
	Xhosa	Southern Sotho		
	Swazi	Western Sotho (Tswana)		
	Ndebele			

Of all these languages only Swazi and Ndebele are not offered at one of the universities. The languages in a particular group are closely related to one another. Consequently a knowledge of Zulu in the Nguni group will for instance make it possible to communicate with Xhosa, Swazi or Ndebele-speaking persons. Similarly, a person qualified in Southern Sotho will be able to communicate with people who speak Northern Sotho and Tswana. The Nguni and Sotho-speaking groups constitute approximately 94 per cent of all African language speakers in the Republic.

There is no longer any doubt concerning the desirability of studying African languages at university level. In fact, such study has of late become a necessity. Knowledge of an African language has practical value in virtually all occupations, in that misunderstandings can be eliminated and mutual trust promoted. However, these languages can also be occupationally oriented to a considerable extent, as the following examples will show:

- Education: An African language is offered in most of the primary schools for Whites and in some secondary schools; the Department of Education and Training, other education departments and universities.
- The Administration: In various government departments such as Agricultural Economics snd Marketing, Justice, the SA Transport Services, the Transvaal Board for the Development of Peri-Urban Areas, municipalities, mines and industries;
- Sport and recreation: As officials in the service of the Department of National Education, mines, municipalities and other institutions employing large numbers of Blacks;
- Personnel and training officers: various large industries, mines, municipalities and the SA Transport Services;
- Broadcasting: The SABC (radio and television) has regular vacancies for programme organisers, controllers of programmes, news compilers, et cetera;
- Advertising, publishing and printing industry, as well as social work, Missionary and library services.
- Research: In addition to the opportunities which the universities offer graduates in African languages, there are other institutions which use such persons in a research capacity, for example the HSRC, and the Department of Education and Training.

Classical Languages: The term "Classical Languages" is a traditional one, referring to the study of Latin and Greek at a period in which each was judged to have reached a peak of excellence, that is, the fifth century B.C. in the case of Greek and the first century B.C. in the case of Latin.

The field of study, however, embraces not only the study of these languages in the periods mentioned, but also in the preceding and ensuing periods, and also covers the history of these cultures in the broadest sense.

- Greek is of particular importance as the New Testament was originally written in Greek, and it is therefore essential for prospective theologians to master Greek completely in order to be able to make a profound study of the New Testament. (RAU offers courses in Modern Greek.)
- Latin: Besides giving a firm basis to students interested in the modern Romance Languages (the modern offspring of Latin) it is also the language of the famous legal system of Rome. Thus it is a prerequisite for lawyers and advocates and of great assistance to prospective ministers and theologians.

A special one-year course in Latin is offered by the universities to students who did not have Latin up to Std 10 level.

Semitic Languages: This course involves the study of a large number of languages from the Ancient Near East. Since this subject is taken mainly by prospective theologians, the course at undergraduate level concentrates on Biblical Hebrew and Aramaic. Other Semitic languages such as Akkadian and Ugaritic that shed light on the historical, cultural and linguistic background of the Bible are studied mainly at postgraduate level. The study of the Semitic languages is therefore important to students who intend to study Theology and to become ministers. See also Hebrew.

- Arabic: This language is spoken by more than a 100 million people in the Near East and in North Africa and an estimated 700 million people use it in their daily prayers. It is the only one of the so-called Semitic languages (including Hebrew) that has been spoken continuously (with minor changes) since Biblical times.

  In view of the increasingly important role of the Arab and Muslim countries in political, military, economic and religious affairs in Africa and the world in general, there is a growing demand for knowledge of Islam and Arabic. Persons requiring such knowledge are inter alia translators and advisors in government departments and in the export trade; diplomats; church ministers interested in mission work, religious science or Semitic Languages; journalists; historians, and researchers at institutions concerned with Africa and the Middle East.

- Hebrew: While some universities offer the classical Hebrew of the Old Testament, others offer contemporary Hebrew which is the official language of Israel. Some universities offer both. Prospective ministers of the Afrikaans churches need to take at least Hebrew I and II. At some universities Hebrew I is a compulsory subject for education students taking Biblical Science as a major subject.

  Graduates in contemporary Hebrew will be considered for careers in education, translation, journalism, and Israeli and Jewish affairs.

Other subjects for B.A.

African Studies: Because the RSA is part of Africa it is both logical and essential that young people should acquire a knowledge of Africa. The subject African Studies involves mainly an understanding of present day Africa. An integrated approach is therefore followed that covers numerous aspects so that an overall idea of the continent is obtained.

Students who intend majoring in African Studies have to take one of the following as second major subject: Geography, History, Sociology, Political Science, Economics, Anthropology, Development Administration, Archaelogy.

Graduates are considered for posts inter alia in the Government Information Service, the broadcasting service, the Africa Institute, education, the Department of Development Aid and the diplomatic service. See also Foreign Affairs Officer.

African Thought and Literature is a systematic study of thought patterns and symbolism over a wide area of Africa, and also deals with traditional literature such as folk-tales, as well as new ideologies encountered in present day Africa.

It is not a career subject, but should be of great value to students who specialise in an African language, or in any other field relating to the African continent and its people.

Anthropology/Social Anthropology is divided into different study fields of which Physical and Culturosocial Anthropology are the most important. Physical Anthropology makes a study of man as a physical and biological being, while the latter concerns the cultures and social ordering of the peoples of the world. The study field is not limited to a particular group or to people of a particular time. All societies are included in the study field. Anthropological research is at present as important in the cities of the industrialized world as in the remotest parts of the non-Western world.

Institutions offering career opportunities to students with Anthropology as a major subject, particularly those with postgraduate training, include government departments such as Development Aid, Foreign Affairs and Defence; research institutions such as the HSRC; municipalities, museums, and the radio and television.

Archaeology: Archaeology is the study of past human societies. The prehistory of man covers the last three million years, and archaeology therefore is a large field with many subdivisions such as prehistoric, classical, biblical and industrial archaeology. Archaeology also maintains contact with many different disciplines, for example anthropology, biology, chemistry, geology, geography, human anatomy and palaeontology.

The scope of Archaeology is, however not only limited to the study of prehistoric cultures. Its methods are also being used to study, inter alia, the remains of building constructions by early White settlers.

Since job prospects in this occupation are so limited, it is imperative that candidates who are interested, should either equip themselves for another career as well or make a judicious choice of major and subsidiary subjects. Vacant posts are mainly limited to a number of museums and a few universities. Occupational archaeology is a new field and by being equipped for another occupation as well, the person who is trained in archaeology can hold himself in readiness for a possible post, should one become available.

Biblical Studies: Biblical Studies is the subject in which a scientific study of the Bible is made. It covers more than just Religious knowledge or Religious Instruction. Biblical Studies may be combined with a number of subjects. Students who wish to continue their theological studies, receive full recognition for Biblical Studies.

Biblical Studies as a major for a degree is suitable for Religious Instruction at primary and secondary school level and is essential for the teacher who has to teach the subject in the secondary school. Biblical Studies, which is a recognised subject for matriculation exemption, is currently being offered by an increasing number of secondary schools and there will be a growing demand for teachers of this subject in the future. The subject is also of considerable importance for a career in library science or the book trade.

The Christian publishing industry and the field of journalism also offer career possibilities.

Criminology: In Criminology a study is made of certain aspects of crime manifestation. The most important of these are, for example, what constitutes crime, the causes of crime, the incidence of crime, the offender as a person, punishment and treatment of criminals and the prevention of crime. One of the following recommended subjects may be taken as a major subject together with Criminology: Psychology, Sociology, Communication, Private Law or Criminal Law. Criminology as a minor subject is recommended for students taking Communication (journalism), Theology, Law or Social Work.

A knowledge of Criminology is to a larger or smaller extent of value in all occupations in which crime or the criminal is encountered, such as the legal professions (attorneys, advocates, prosecutors, magistrates, judges, the police and prison services) and in all welfare work performed by private organisations and the Department of National Health and Population Development. This field of study offers particular scope for research at universities or in the service of the HSRC.

Cultural History: Culture includes everything man creates - from his home and furnishings to his games and recreation. The study of cultural history concerns traditional lifestyles from the earliest times up to the present. It involves the study of man's spiritual as well as material culture. Whilst contributing to the development of a culture historical and national consciousness as well as a group identity and love for the group's own traditions, this study also leads to a better understanding of the present and the problems unique to it.

The study is also vocation-oriented in view of the importance attached to knowledge of cultural history in the diplomatic and information service; education; the radio, television, theatre and film industry; journalism; publishing; librarianship and the archive services, as well as in culture and conservation-oriented research centres and organizations. Such knowledge is obviously indispensable in the cultural history museum. See also Museology.

Demography involves the study of human populations, their structure and composition, and their development in terms of size and distribution. Particular analysis techniques are required to determine growth and decline in populations accurately as well as changes in appearance. At RAU demography is presented as a separate Honours degree for the training of qualified demographers and to equip economists, sociologists, geographers and others with a specialised knowledge of demography.

The following subjects combine well with an Honours degree in Demography: Economics, Geography, Sociology, Anthropology, Psychology and Genetics. Undergraduate training in Mathematics, Mathematical Statistics and Statistics are suitable for specialisation in Demography. An approved undergraduate degree in Statistics (Statistical Methods) is a prerequisite for the Honours degree.

South Africa with its variety of population groups, each of which has its own characteristics and problems, poses an interesting research challenge to the demographer. Fields and institutions offering career opportunities include town and regional planning; regional development by private firms; demographic economic and social planning at government level; the HSRC; market research and production planning, and the Central Statistical Services.

Development Administration: In a wider sense this field comprises the scientific study of the administration and development problems of developing nations in general. More specifically, Development Administration is concerned with the process of state forming and developing in Southern Africa. Universities make provision for the meaningful combination of Development Administration with subjects such as Economics, Anthropology, Sociology, Political Science, Indigenous Law, Geography, Public Administration, African Languages, History, Private Law, Communication and Social Work.

The demand for specialists in this field is still growing. Opportunities are available, for example, in the Government departments of Development Aid, Education and Training and Foreign Affairs; the SABC, the press, universities and some research institutes such as the Africa Institute of South Africa. See also DEVELOPMENT STUDIES.

General Linguistics/Linguistics: Linguistics is the discipline which takes human language as the object of its investigation, posing the question 'What is language?' and seeking to provide an answer in terms of structural properties of human communication, from a description of the sounds of speech to the rules governing the way in which these sounds come to express the complexity of human thought. A linguist's training would therefore enable him to describe any language, irrespective of whether that language was previously known by him or not.

While language study is of interest in its own right and may lead to an academic career in Linguistics, there are a number of related fields in which application of Linguistics plays an important part. Some of the most obvious ones are Communication Studies, Psychology, Speech Therapy, Philosophy and first and second language studies. Any subject concerned with the teaching, learning and use of language, must presume an understanding at a general level of what language or a particular language is.

Linguistics is a useful subject for careers such as language teachers, translators, terminologists, journalists, radio announcers and speech therapists.

Geography is the study of the relationship between man and his environment. It looks at the nature of physical and human resources, their development and utilisation and the processes which underlie their distribution.

Geography may be taken as a major subject for either a B.A. or a B.Sc. degree. A matriculation pass in Geography, although an advantage, is not an essential requirement.

There are more career opportunities open to geographers than ever before in government, business and educational institutions. Government departments such as Water Affairs and others concerned with resource evaluation and planning, call for the skills and knowledge acquired in the Geography courses, as do research and town planning organisations. Geography is also an attractive teaching subject.

History: This subject involves the scientific study of mankind's activities in the broadest sense of the term, including historical battles, diplomatic negotiations, political cunning, technical skills and, very important, the philosophy underlying the actions of individual leaders. The subject pursues the truth and strives to obtain a meaningful overall prospective through dialogue and research. The continuous deliberation that marks the study of history provides greater insight into the past, including the people. Such an historical perspective at the same time promotes involvement in the present and understanding of the process of change.

Fields that offer career opportunities include education, the archive services, research organizations such as the HSRC, journalism, librarianship, museums, radio and television. See also Archivist.

History of Art: A work of art reflects a specific level and way of thinking and is distinguished from other human creations by virtue of its composition. The artist derives the forms which he creates from his own environment and time, and the appearance of art will therefore change with time. The task of the student of History of Art and of the art historian is to explain the art forms of the past and to give them new life. For this purpose the art historian makes intensive use of the knowledge obtained from other subjects such as History, Philosophy, Sociology, Psychology, Biblical Studies, Literature and sometimes even from the natural sciences.

Career opportunities for art historians are found mainly in the field of research and/or lecturing in art museums, cultural-historical museums, universities and art schools. They may also be employed by the SABC as art critics, by art dealers as liaison officers between artists and the public, and by the diplomatic service as cultural attachés.

Indigenous Law: Training is given in the traditional law of the Black peoples as applied by the tribal authorities. Certain indigenous laws have been amended by the parliaments of the RSA and the national states.

As a subject it combines well with Development Administration, Anthropology, Economics, Sociology, Political Science or an African language. It is also one of the subjects for the LL.B. degree. The subject has significance for occupations such as that of development specialist, administrative officer and legal advisor in a government department, lecturer or researcher at a university or research institution, lawyer or advocate.

Philosophy: The word philosophy means a love of, or the pursuit of wisdom or insight. Philosophy is the mother of all sciences and originated in Ancient Greece. The subject entails the theoretical study of views on life and on the world, and it concerns the pursuit of truth through the study of the structural relationship between all things in the universe.

Because Philosophy offers a broad overall perspective, it is a good basic, generally formative course for students in all fields of study.

Philosophy is not in any way career-oriented, but it nevertheless constitutes a sound basis for most occupations including those of clergymen, teachers, advocates, social workers and journalists.

Political Science/Political Studies involve(s) the systematic study of political phenomena within the state as the most important modern social unit. These phenomena include all the perceptions, institutions and behaviour patterns relating to the ordering of society through the exercising of power.

Political Science can be divided into the following specialization fields:

Note: At some of the universities the different fields constitute completely separate courses, some of which are taken only at postgraduate level. See Appendix B: Major subjects for the B.A. degree.

- African Political Studies/African Studies: This field includes the study of particular countries, the problems of developing states, and the international relations of African states.

- International Politics/International Relations focuses on the historical development of international relations; the nature, objective, formulation and administration of external policy; the foreign policies of states, as well as the different forms of interaction between states.

- Political Dynamics: Attention is paid to the sociological and psychological determinants of collective and individual political behaviour, the process of making and formulating political policy including the question of interest groups, political parties, representation, public opinion forming and political election conduct.

- Political Philosophy is no factual science, but tends more towards the development and practice of critical and independent thought, logical reasoning, concept elucidation and theoretical insight. Philosophical inquiry into cultural, social, political and moral issues thus paves the way for closer and critical deliberation on the most fundamental practical issues confronting people.

- Political Theory concerns the political theories of ancient, classical, medieval and modern philosophers, as well as different traditional and modern approaches to the study of political phenomena.

- Strategic Studies keeps the student informed on world events.

- South African Politics: The root causes for South Africa's relations issues are analysed and constitutional developments and changes explained, and a study is made of alternative constitutional models.

- Comparative Politics: A comparative study is made of the characteristics of political systems.

As a social science, Political Science is closely related to other social sciences. It is therefore useful as a major subject together with subjects such as Industrial Psychology, Economics, Geography, History, Communication, Public Administration, Law subjects, Sociology, Anthropology and Philosophy. The converse also holds in that students taking the above subjects can benefit by including one or more courses in Political Science in their syllabuses.

Political Science is usually studied as background to a large number of occupational fields relating to certain government departments, the provincial administrations and local authorities, as well as education, law, journalism, private business, practical politics, the radio and libraries.

Psychology: Psychology as a subject can briefly be described as the study of all aspects of human behaviour. In the practical situation psychologists study the normal and abnormal behaviour of individuals and groups in order to understand and explain their actions more fully. Various methods are employed to obtain as much information as possible.

Although a Bachelor's degree offers a good background, undergraduate training in Psychology is not occupationally directed. A candidate must therefore be prepared to undertake intensive postgraduate studies to qualify as a successful psychologist. The subject is exceedingly wide and candidates normally specialise in one or more fields. Often psychologists also combine different fields in practice. No person may, however, practise as a psychologist without being registered with the South African Medical and Dental Council. The requirement for registration is at least a Master's degree plus internship of one year at an approved institution.

Branches of Psychology include, for example:

- Counselling Psychology: In this field the psychologist renders assistance in respect of problems in connection with the choice of a field of study or the choice of an occupation, and with marital or family problems. Teacher or school psychologists employed by education departments work with pupils and deal with learning problems, the choice of subjects and occupations and behaviour problems. In their work use is made of various scholastic and psychological tests. See COUNSELLING PSYCHOLOGY.

- Clinical Psychology: These psychologists chiefly work with adults and children displaying serious forms of disturbed or abnormal behaviour. They work in conjunction with a medical doctor or a psychiatrist and psychological testing constitutes an important aspect of their work as well. See CLINICAL PSYCHOLOGY.

- Industrial and Personnel Psychology: This important branch of Psychology is discussed separately. See COMMERCE: Vocational Service.

- Research and Academic Psychology: Psychologists in this field undertake full-time research in various fields of Psychology.

- Pastoral Psychology: These psychologists are persons with theological training (clergymen) and who are also trained as clinical or counselling psychologists. In other words, they are capable of helping people in need of psychotherapy.

- Psychometrics: A person with an Honours degree in Psychology may register as a psychometrist with the Professional Board for Psychology. A psychometrist is trained, inter alia, to conduct and to interpret psychological tests. He may only work under the supervision of a registered psychologist.

- Other fields include Educational Psychology, Child Psychology or Development Psychology, Physiological Psychology and Social Psychology. Psychology can also be a useful subject for students who do not intend becoming psychologists, but who will mainly work with people.

Psychology can be taken as a major for B.A., B.Com. or B.Sc. depending on the regulations of each university and the interest of the student. Psychology can usually be combined with subjects such as Sociology, Anthropology, Languages, Mathematics, Mathematical Statistics, Social Work, Philosophy, Economics, Physiology, Zoology, Physics and Computer Science.

Note: The psychiatrist is not mentioned above because, strictly speaking, he is a medical practitioner who, besides his ordinary medical training, has also received training in the treatment of the mentally ill and specialises in this field.

Psychologists normally find occupational opportunities with the following: The HSRC; the sections for psychological services of, for example, the Transport Services, the Defence Force, Iscor, Sasol, the mines and large municipalities; the education departments and Government departments of Manpower, National Education, National Health and Population Development, hospitals, church denominations, commerce and industry, large business concerns, private practice or clinics, institutions for the mentally ill and mentally deficient, and child guidance clinics.

Recreation Science: Within 30 years South Africa has become a formidable industrial country. More people are becoming urbanized and prefer living in large cities. Along with the increase in urbanization there is a growing need for open spaces and the constructive use of leisure. So extensive and complex has the need for healthy leisure become that local communities have a growing need for professionally trained recreation specialists. South Africa has only recently entered this field. Against this background the PU for CHE decided to introduce a course in Recreation Science.

The aim of this course is to lead students towards greater awareness of the importance of leisure, the problems involved, and the contribution that it makes towards a joyful and worthwhile life.

Recreation Science is a relatively new occupational field that requires much pioneering work. It makes particular demands in terms of the initiative, ingenuity and enterprise expected of candidates. However an interesting, challenging and satisfying career awaits persons who are willing to accept these challenges. Institutions that offer career opportunities include municipalities and development boards; large organizations such as mines, industries and corporations; the national and provincial authorities; parks and resorts; divisions of tourism; universities, education departments and colleges as well as private concerns.

Sociology is concerned with the study of the social interaction of human beings as members of social groups. It looks at how groups affect the individual and how individuals influence group life. It studies the consensus of people in groups and the conflicts which occur between individuals and groups.

Sociology is a compulsory subject for the following fields of study: Nursing, Social Work and Town and Regional Planning. Sociology has particular significance in other fields such as the academic sociologist attached to universities as lecturers; the research sociologist attached to the HSRC, research institutes at universities and other organisations; and administrative and planning sociologists (persons employed in large organisations and industries in which a sound knowledge of human relations is essential, for example liaison officers and personnel managers and persons concerned with planning and development).

Sociology fits in particularly well with various fields of study and can be combined with several major or subsidiary subjects. Graduates are employed by some government departments, the Defence Force, large municipalities, commerce and industry.

- Industrial Sociology which is a branch of Sociology, is concerned, inter alia, with management/labour relations in complex industrial societies. It prepares students for careers in industrial relations, either in the field of management or in trade unions. See also Industrial Relations.

POSSIBLE OCCUPATIONS FOR B.A. GRADUATES (Proposed subjects are indicated in brackets)

Administrative Officer (Public Service) (Major subjects: Public Administration; Sociology/Industrial Sociology; Psychology/Industrial Psychology/Industrial and Personnel Psychology.
Subsidiary subjects: Economics, Political Science, Communication, Development Administration, an official language, Philosophy)

Graduates who have an appropriate B.A., B.Admin. or B.Com. degree may be appointed in the Public Service as administrative assistants. When they fill the higher administrative posts, they will have to investigate certain matters daily, conduct negotiations, give orders, take decisions and write memoranda and reports. Newcomers are trained by experienced personnel. They attend an induction course and the more senior officers attend a course on the principles of supervision.

Because of the large variety of duties to be performed, there are administrative personnel scattered in offices all over the country as well as overseas. Thus there is the opportunity to appoint people with a diversity of interest fields and qualifications in such a way that they can find complete fulfilment in their occupations.

Administrative personnel have much scope for promotion. At an early stage in his career the able person is given a position of responsibility in which he can fully realise his personal aptitude and in which his potential may be used to the best advantage. Promotion to higher ranks is not limited to one department only, but candidates may compete for senior positions in other departments as well. A position of high responsibility may eventually be reached in the Public Service.

Announcer and programme compiler (Afrikaans, English, African and other languages, Speech and Drama, Music)

The SABC offers employment to graduates in a variety of divergent fields, for example in administration, the programme section, regional services, and the section for foreign services. It is expected, furthermore, that the SABC will employ still more graduate men and women to make provision for effective television programmes. However, intending B.A. candidates (male and female) who are interested in a career in broadcasting, must make sure of a suitable subject combination. More information about this may be obtained from the Regional Manager, SABC, at one of the following addresses: P.O. Box 962, Pretoria 0001; P.O. Box 2551, Cape Town 8000; P.O. Box 122, Grahamstown 6140; P.O. Box 321, Windhoek 9100; P.O. Box 563, Bloemfontein 9300; P.O. Box 1588, Durban 4000. Enquiries may also be directed to: The Head, Personnel Administration, SABC, P.O. Box 8606, Johannesburg 2000 OR The Deputy Director, General Services, P.O. Box 4559, Johannesburg 2000.

Archivist (Departments of National Education) (History and Public Administration)

A B.A. graduate with History as a major subject may be appointed in the Government Archives in Pretoria as an archivist. Enquiries may be addressed to the Director of Archives, Private Bag X236, Pretoria 0001.

See Tertiary Training for the National Diploma in Archival Science.

Committee Clerk (Afrikaans, English, Communication, other B.A. subjects and, where possible, Typing)

Various bodies and firms mainly employ women as committee clerks. Although basically their duties are similar, there are particular differences owing to the nature and requirements of the body employing them. Consequently some employers are satisfied with a Senior Certificate as qualification for a committee clerk, although others, such as, for example, the SABS, require a B.A. degree. Normally this career demands that persons be completely bilingual, with a sound knowledge of English in particular in cases where employers have liaison with overseas countries. The work is interesting and varied, and has the advantage that a young woman may return to her occupation after marriage.

Foreign Affairs Officer (Diplomat) (Anthropology, Economics, Political Science/International Politics, Communication, African Studies)

South Africa's diplomatic service, which is administered by the Department of Foreign Affairs, is responsible for establishing friendly and mutually beneficial relations with other countries.

The diplomat's objective should be to improve relations between his own and other countries, and to keep his own country fully and accurately informed on conditions prevailing in the country in which he is stationed. At the same time he should explain the policy and aims of his own government to that of his host country, and to use every opportunity to extend contacts and encourage exchanges of opinion to their mutual benefit.

The foreign affairs officer spends much of his career abroad serving in South Africa's diplomatic and consular missions on five continents. His functions include, inter alia, the following: representation, conveying messages to officials of the host countries, attending official functions as South

Africa's representative, drawing up documents for submission to the host country, reporting the host country's viewpoints to the South African government, and attending various international conferences where technical and economic matters are discussed.

Appointment in the Diplomatic Service requires the candidate to undergo psychometric tests, security clearance and to be interviewed by a selection committee. The academic qualification required is a B.A. degree, or equivalent qualification preferably in one or more of the above-mentioned subjects. Cadets are admitted mainly at the beginning of each year as the training programme of approximately three years commences early in the year. Candidates are expected to have a flair for languages and to be articulate and eloquent.

The promotional grades (1985) are as follows: Cadet: Foreign Affairs; Foreign Affairs Officer; Senior Foreign Affairs Officer; Deputy Director: Foreign Affairs; Director: Foreign Affairs.

Journalist (Afrikaans, English, Communication, other B.A. subjects). See also COMMUNICATION.

Language Officer/Translator (Afrikaans, English, African languages, other languages such as German, French, Italian, Portuguese)

The language service of the Public Service is rendered by the State Language Services of the Department of National Education and the language service divisions of the provincial administrations.

The State Language Services is responsible for translating and editing the language of official publications of all government departments; for translations from foreign languages into the official languages for government departments and for the development of the terminology required for publications in the different specialised fields of the work of these departments. In order to execute these functions, it is divided into three sections: Afrikaans, English and Foreign Languages.

A translator renders a particular service to the inhabitants of the country. The occupation is suitable for men and women and postgraduate studies are always encouraged.

Bilingualism and the correct use of the two official languages are becoming an increasing requirement and the demand for qualified translators will consequently increase. Most organisations which serve the public continuously require the services of translators. These bodies and organisations are, for example, the HSRC, CSIR, Iscor, UNISA, SABC, large municipalities, several control boards, publishing firms, insurance companies and many other private institutions. See also TRANSLATION.

Personnel Officer (Public Service) (Afrikaans, English, Economics, Public Administration, Political Science, Sociology, Psychology/Industrial Psychology)

Looking after the interests of personnel in the Public Service (and utilising their services) is known as personnel administration. The Commission for Administration is the central body responsible for the personnel policy of the entire Public Service. Every government department in its turn has a personnel section which serves as liaison between that department and the Commission for Administration.

The majority of the personnel sections, which together with other sections usually form the head office of a department, are based in Pretoria, but are also found in Cape Town, Bloemfontein and Pietermaritzburg. For persons attached to personnel administration there are numerous opportunities for self-improvement and achievement. Junior personnel receive effective guidance, while induction and supervisor's training courses are offered to officers to equip themselves more suitably for their tasks.

Personnel officers have practically unlimited opportunities for promotion. They can compete for promotion in all departments and by doing efficient work may be appointed to posts of high responsibility in the Public Service.

Politician (Afrikaans, English, Political Science, History, Anthropology, Economics)

Private Secretary (Afrikaans, English, Speech and Drama, Communication, secretarial courses outside the university). See also SECRETARIAL PRACTICE.

Public Relations Officer (Afrikaans, English, Speech and Drama, Sociology, Psychology, Communication)

Teaching (Afrikaans, English, History, other languages, other school subjects). See also EDUCATION.

BIOMEDICAL ENGINEERING/BIOMEDICAL SCIENCES

University: UCT

FIRST DEGREES

Bachelor of Science (Medicine)(Honours) Biomedical Sciences: B.Sc.(Med.) (Hons.) Biomedical Sciences

Master of Science (Medicine) in Biomedical Engineering: M.Sc.(Med.) in Biomedical Engineering

Admission requirements: Graduates in engineering or a related field.

Doctor of Philosophy: Ph.D.

Further information is available from the Head of Department of Biomedical Engineering, UCT Faculty of Medicine, Observatory 7925, Cape Town.

VOCATIONAL SERVICE: Biomedical engineers work in a field that encompasses the disciplines of engineering and medical sciences. Their work can therefore be very diverse. Together with a cardiac surgeon they may design an artificial heart valve, in conjunction with a physiotherapist they may develop a special wheelchair for handicapped children, or with an orthopaedic surgeon they may pioneer an artificial replacement system for a diseased ankle joint.

Biomedical engineers may be involved in the whole spectrum of health care: prevention, diagnosis, therapy and rehabilitation. Biomedical engineering may be divided into the following three subfields:

- Bioengineering applies engineering concepts and technology to our understanding of medical, physiological and other biological systems. It includes the application of engineering principles to the structure, function and pathology of the human body.

- Medical engineering is also concerned with the application of the same engineering principles, but mainly for developing instruments, materials, artificial organs, computer programmes needed in patient care and medical research.

- The clinical engineer is directly involved in patient care. He uses engineering, technical or computational techniques to find solutions to medical problems. This may lead to the design and construction of a particular instrument or may simply be a case of giving appropriate advice.

Career opportunities at hospital and medical research insitutions are often available. The medical equipment industry in South Africa presently concentrates on importing sophisticated and expensive hardware. There is a need for locally-trained biomedical engineers to break into the market with appropriate technology.

BIOPHYSICS

Universities: UP, US

FIRST DEGREES

Bachelor of Science in Biophysics: B.Sc. in Biophysics (US)

Additional admission requirements: As for the B.Sc. degree. See PURE NATURAL SCIENCES.

Duration: Four years of full-time study.

Master of Science in Biophysics: M.Sc. (Biophysics) (UP)

Admission requirements: A B.Sc.(Hons.) degree in Physics or an equivalent qualification.

Duration: An examination has to be passed and a dissertation has to be submitted.

POSTGRADUATE DEGREES

Master of Science: M.Sc. (US)

Doctor of Science in Biophysics: D.Sc. (Biophysics) (UP)
Doctor of Science: D.Sc. (US)
Doctor of Philosophy: Ph.D. (US)

VOCATIONAL SERVICE: The medical physicist is the person who applies the principles of physics in medicine. In order to do this he has to make a thorough study of biophysics, particularly on a postgraduate level.

Biophysics can be divided into two fields, namely a physics-oriented field and a biologically oriented field. It is the latter which is of particular interest in medicine.

The following are examples of the work of a medical physicist:

- He is concerned with the irradiation apparatus.

In the case of irradiation he would, for example, programme the irradiation apparatus in such a way that the right dosage is given to a particular patient. He also controls the dosage.

- When radio-isotopes are used to treat cancer patients, the medical physicist is responsible for the dosage as well as for the safe handling of it.
- Medical physics for non-ionizing rays is a very interesting field where physics is applied in physiotherapy, lung-function studies, ophthalmology, etc.
- Medical physicists are also responsible for teaching biophysics in all the medical fields.

It is an interesting career and offers great research possibilities for the young scientist. Medical physicists are employed, inter alia, by the following oraganisations: the CSIR; hospitals (medical physicists); Department of Health Services and Welfare (inspector-physicists); NUCOR and the Uranium Enrichment Corporation (biophysicists and health physicists); the universities (medical physicists). There is a great shortage of persons trained in biophysics.

B.Sc. WITH TECHNICAL SUBJECTS

University: PU for CHE

FIRST DEGREE

Baccalaureus Scientiae with Technical Subjects: B.Sc.

Additional admission requirements: As for the B.Sc. degree. See PURE NATURAL SCIENCES.

Duration: Three years of full-time study. The degree may be obtained in one of three subject fields, viz: Civil, Electrotechnics, or Mechanics.

VOCATIONAL SERVICE: This course involves the training of teachers in three technical fields. The subject content concerns knowledge of manual tools, machinery, materials and design aspects of these fields.

Career opportunities are mainly in the field of education, namely as teacher, technical training lecturer at a technikon or university, or in industry.

However because of the shortage of technical manpower in South Africa the career opportunities are unlimited, with some graduates already working for UCOR and on the mines.

BUILDING/BUILDING MANAGEMENT

Universities: UCT, UN (Durban), UOFS, UPE, UP, UW

FIRST DEGREES

Bachelor of Science (Building Management): B.Sc. (Building Management) (UCT)

Additional admission requirements: A pass in Mathematics HG or at least 50 % in Mathematics SG and a pass in a science subject SG.

Duration: Four years of full-time study. First-year students are required to attend a three weeks' practical course at the BIFSA training college during the mid-year vacation. Every student must undertake three periods each of not less than six weeks' experience during his vacations with an approved building contractor.

Bachelor of Science in Building Management: B.Sc.Bldg.Mgt. (UN)

Additional admission requirements: A pass of at least 40 % in Mathematics HG and in Physical Science HG, or at least 60 % in Mathematics SG and in Physical Science SG.

Duration: Four years of full-time study. All candidates must, before being permitted to enter upon the work of the subsequent year, obtain at least six weeks' continuous practical experience with a firm of general building contractors.

Bachelor of Science in Building Management: B.Sc. Building Management (UOFS)

Additional admission requirements: A pass in Mathematics SG and, preferably also in Physical Science SG.

Duration: Four years of full-time study. A student must be employed on a full-time basis in the office of an approved building contractor for a minimum period of two months during vacations each year.

Bachelor of Building Arts: B.Bdg.A. (UPE)

Additional admission requirements: A pass of at least 40 % in Mathematics SG.

Duration: Three years of full-time study. Successful candidates can obtain the B.Arch. degree after a further two years of full-time study.

Baccalaureus Scientiae in Building Management: B.Sc.(Bdg.Man.) (UPE)

Additional admission requirements: At least 40 % in Mathematics SG.

Duration: Curriculum B1 which includes only limited practical work in the building industry extends over at least four years. Curriculum B2 which includes extensive practical work in the building industry extends over at least five years.

Bachelor of Building Management: B.Sc. (Building Management) (UP)

Additional admission requirements: As for the B.Arch. degree. See ARCHITECTURE.

Duration: Five years' study, comprising two years of full-time study followed by three years of part-time study during which a candidate must be employed full-time with a registered employer in the building industry.

Bachelor of Building: B.Sc.(Building) (UP)

Additional admission requirements: As for the B.Arch. degree.

Duration: Four years of full-time study.

Bachelor of Science in Building: B.Sc.(Building) (UW)

Additional admission requirements: A pass in Mathematics HG or at least 60 % in Mathematics SG; and a pass on the Higher Grade or at least 60 % on the Standard Grade in one of the following subjects: Biology, Geography, Physical Science, Physiology.

Duration: Four years of full-time study. Every student must perform practical work during vacations and participate in visits and tours.

POSTGRADUATE DEGREES

Master of Philosophy: M.Phil. (UCT)
Master of Science (Building Management): M.Sc. (Building Management) (UCT)
Master of Science in Building Management: M.Sc.Bldg.Mgt. (UN) or M.Sc. (Building Management) (UOFS)
Magister Scientiae in Building Management: M.Sc.(Bdg.Man.) (UPE)
Master of Building Management: M.Sc. Building Management (UP)
Master of Science in Building: M.Sc. (Building) (UW)

Doctor of Philosophy: Ph.D. (UCT, UN, UW)
Doctor of Science in Building Management: D.Sc.Bldg.Mgt. (UN)
Philosophiae Doctor in Building Management: Ph.D. (UPE)
Doctor of Building Management: D.Sc. (Building Management) (UP)
Doctor of Science in Building: D.Sc. (Building) (UW)

VOCATIONAL SERVICE: The rapid expansion of this industry, the replacement of the traditional by modern building materials (for example those of a synthetic nature), the application of sophisticated building techniques and the attendant organization to erect buildings quickly and efficiently, are all aspects of building technology which make specialized study indispensable. The larger construction companies, in particular, are to an increasing extent realising the value of the knowledge of graduates in building management and building science.

Students are trained to carry out the designs of the architect and the engineer on the building site in such a way that optimal production is maintained using the most economical methods.

Work in the field of building management refers to the various types of building activities and can be of a divergent nature. There is consequently a great demand for building managers to occupy a variety of indoor and outdoor posts, from building project to personnel management, from the management of subcontractors to the purchase of equipment and materials, and a host of other functions. Building scientists, on the other hand, are involved mainly in the professional rather than the executive sphere of the building industry. However, it may happen that larger firms will also make use of the services of building scientists in an executive capactiy. Most building scientists are however employed by architects as partners. Manufacturers of building material employ graduates in building science with a view to office and publicity work. A few are employed by research laboratories.

BUSINESS ADMINISTRATION

Note: Business Administration is a three-year major subject for the B.Com. degree at Rhodes University and the University of Natal. See COMMERCE.

Universities: UCT, UDW, PU for CHE, UP, US, UW

FIRST DEGREES

Master of Business Administration: M.B.A. (UCT, UDW, PU for CHE, UP, UW)

Admission requirements:

UCT: A graduate or a chartered accountant; or a person who has been admitted as an Associate Member or Fellow of the Institute of Cost and Management Accountants; or a person who has satisfied the Senate by means of a prescribed test that he has attained a level of competence which is adequate for the purposes of postgraduate studies or research.

UDW: A student must

- hold a recognised Bachelor's degree or a qualification approved by the Senate;
- have business experience and/or a level of maturity that will enable him to benefit from the programme; and
- sit for an admission test.

PU for CHE: A Bachelor's degree and at least two years' approved practical business experience which may be completed during the period of study.

UP: A Bachelor's degree, a pass mark in Mathematics on the Std 10 level and adequate practical experience. Candidates who wish to take the course in Construction Management must hold either a Bachelor's degree in Civil Engineering or Industrial Engineering or a comparable field.

UW: A graduate in any faculty, or a non-graduate who holds a professional qualification, or, in exceptional cases, a person whose admission is warranted by virtue of his experience, qualifications and abilities.

Duration:

UCT: One year of full-time or two years of part-time study.

UDW: At least three years of part-time study. The course must be completed within a maximum period of five years. Under special circumstances, Senate may extend the maximum period.

PU for CHE: At least three years of part-time study. This course is offered at Potchefstroom and at the Vaal Triangle Campus.

UP: The curriculum extends over one year of full-time study while the dissertation is completed during the second year. Part-time study extends over at least three years of 36 weeks each, but must be completed within four years.

UW: One and a half years of full-time study (64 weeks) or three years of part-time study (128 weeks).

Honours Bachelor of Business Management and Administration: B.(B. and A.)Hons. (US)

Admission requirements: Students must hold a Bachelor's degree; must lodge written applications for admission; and have had practical experience which, at the discretion of the Senate, forms sufficient preparation for the course.

Duration: At least one year of full-time study or two years of part-time study.

Master of Business Management and Administration: M.B.A. (US)

Admission requirements: A student must hold

(i) the B.(B. and A.)Hons. degree or other equivalent qualification; or

(ii) an approved Bachelor's degree; or the student must have achieved an adequate standard of proficiency in his specific field of study through other means, and have gained practical experience.

Duration of (i): One year of full-time or part-time study, or two years of part-time study in the case of students taking the modular programme.

Duration of (ii): Two years of full-time study or three years of part-time study or four years in the case of students taking the modular programme.

DOCTOR'S DEGREES

Doctor of Philosophy: Ph.D. (UCT, UW)
Doctor of Business Administration: D.B.A. (UDW, PU for CHE, UP)
Doctor of Business Management and Administration: D.B.A. (US)
Doctor of Economic Sciences: D.Econ.Sc. (UCT)

VOCATIONAL SERVICE: Persons with this qualification meet the need for trained managers. Persons trained in a particular field but who lack management training may find themselves in a situation where they are expected to carry responsibility at management level. The management profession extends further than general management and includes specialization in a large number of managerial functions characteristic of commerce and industry that require thorough schooling in modern business principles and practice.

The large variety of managerial fields provides persons with the opportunity of choosing a suitable field in accordance with their aptitude and personality characteristics. A few of these fields are, for example, those of the personnel manager, sales manager, executive manager, production or works manager, marketing manager, financial manager, credit manager and so forth.

BUSINESS LEADERSHIP

University: UNISA

FIRST DEGREE

Master of Business Leadership: M.B.L.

Admission requirements: A student must

(i) hold a Bachelor's degree; or have obtained the Certificate in the Theory of Accountancy and have qualified or be in possession of the C.A.(S.A.); and

(ii) have had at least three years' appropriate practical experience in an approved undertaking; provided that with the special permission of the Director of the School for Business Leadership a shorter period may be accepted;

(iii) join a study group of at least 5 persons. A smaller group may be permitted in exceptional cases with the special permission of the Director. Should it be impossible to form a local group, a student must join an existing group elsewhere. A student's enrolment is accepted on these conditions.

Duration: Four years.

DOCTOR'S DEGREE

Doctor of Business Leadership: D.B.L.

VOCATIONAL SERVICE: See Business Administration above.

BUSINESS SCIENCE

University: UCT

FIRST DEGREE

Bachelor of Business Science: B.Bus.Sc. (UCT)

Additional admission requirements: A pass in Mathematics HG or at least 50 % in Mathematics SG. See also COMMERCE.

Duration: Four years of full-time study. Each student must choose one field from the following: Actuarial Science, Banking, Business Finance, Computing and Data Processing, Economics (General), Insurance, Law, Marketing, Mathematical Economics, Personnel Management, Psychology, Public Administration, Sociology, Statistics and Operational Research.

POSTGRADUATE DEGREES

Master of Business Science: M.Bus.Sc.
Master of Philosophy: M.Phil.

Doctor of Philosophy: Ph.D.

VOCATIONAL SERVICE: The degree is designed for students who plan to make a career in a business enterprise or other organisation. The degree course is not a substitute for practical business experience but rather the opportunity for

- a study of the structure and working of the business world including the economic and human problems which arise in business and other organisations;
- an inter-disciplinary study of economics, accounting, mathematics, sociology and psychology which concentrates on the application of appropriate concepts and techniques towards the understanding, analysis and solution of problems in business management;
- a study of the scientific approach to management problems and use of current quantitative and computer techniques in those areas in business management formerly considered to be largely matters of opinion and judgement.

CHEMICAL TECHNOLOGY

University: UN

FIRST DEGREE

Bachelor of Science in Chemical Technology: B.Sc.Chem.Tech.

Admission requirements: The B.Sc. degree with 40 credits in Chemistry, 24 credits in Physics, and 24 credits in Mathematics; or the B.Sc. in Engineering degree with 40 approved credits in Chemistry, 24 approved credits in Physics and 24 approved credits in Mathematics. The 24 credits in Physics may be waived in the case of a candidate with appropriate experience.

Duration: One academic year for a candidate who holds a B.Sc. degree and two academic years for a candidate who holds a B.Sc.Eng. degree.

POSTGRADUATE DEGREES

Master of Science in Chemical Technology: M.Sc.Chem. Tech.

Doctor of Philosophy: Ph.D.

VOCATIONAL SERVICE: See Chemistry under Pure Natural Sciences and Chemical Engineering under Engineering.

CLINICAL PSYCHOLOGY

Universities: All the universities except MEDUNSA and VISTA
US offers an Honours degree course in Clinical Psychology.

DEGREES

Master of Arts in Clinical Psychology: M.A. (UCT)
Magister Artium in Clinical Psychology: M.A. (Clinical Psychology) (UDW) or M.A. (Clin.Psych.) (UPE)
Master of Science in Clinical Psychology: M.Sc. (Clinical Psychology) (UDW)
Master of Arts: M.A. (UFH, UN, UNORTH, RAU, RU, UZ)
Master of Science: M.Sc. (UFH, UN, UNORTH)
Master of Arts (Clinical Psychology): M.A. (Clinical Psychology) (UOFS, US)
Master of Science (Clinical Psychology): M.Sc. (Clinical Psychology) (UOFS, US)
Master of Social Science (Clinical Psychology): M.Soc.Sc. (Clinical Psychology) (UOFS) or M.Soc.Sc. (UN)
Magister Artium: M.A. (PU for CHE)
Master of Arts in Clinical Psychology: M.A. (Clinical Psychology) (UP, UNISA) or M.A. (Clin.Psych.) (UW)
Magister Psychologiae: M.Psych. (UWC)

Admission requirements: An Honours degree in Psychology.

Duration: Two years, comprising one year of full-time class attendance and practical work and one year of full-time internship at an institution approved for the purpose by the South African Medical and Dental Council and the presentation of a dissertation.

This is a specialised degree leading to professional registration with the South African Medical and Dental Council.

Doctor's degrees: See ARTS, PURE NATURAL SCIENCES and SOCIAL SCIENCE.

VOCATIONAL SERVICE: See Psychology under ARTS.

COMMERCE

Universities: All the universities except MEDUNSA

FIRST DEGREES

Bachelor of Commerce: B.Com. (UCT, UFH, UN, UNORTH, UP, RU, UNISA, VISTA, UW, UZ)
or B.Comm. (US)
Baccalaureus Commercii: B.Com. (UDW, UOFS, UPE, UWC)
or B.Comm. (PU for CHE)
Bachelor of Economic and Management Sciences: B.Com. (RAU)

Additional admission requirements:

UCT: See ARTS for the Admission Rating System

- In calculating points, English HG (First or Second Language) and Mathematics points are doubled.

- All second languages are calculated on the Higher Grade.
- If seven matriculation (or equivalent) subjects are taken, select English, Mathematics and the four best after these for scoring.
- A pass in Mathematics HG or at least 50 % in Mathematics SG.

Applicants with a rating of 50 and above will be given unconditional acceptance for a study place. Applicants with ratings of 40 to 49 will be placed on a waiting list. Applicants with ratings of 39 and below cannot be accepted.

UDW: A pass in Mathematics HG or at least a D symbol in Mathematics SG, except in the case of students who passed with an aggregate of C (60 %) or higher.

A candidate who wishes to register for B.Com.(Law) must have passed with an aggregate of at least 45 % and a pass of at least 40 % in Latin HG. Persons who have not passed Latin will have to pass Latin Special at the University.

UFH: See PURE NATURAL SCIENCES for the rating system. The points are not doubled as is the case for a B.Sc. degree. A rating of 29 is required for admittance to the B.Com. course.

UN: A pass of at least 40 % in Mathematics HG or at least 60 % in Mathematics SG. From 1986 a pass of 70 % in Mathematics SG will be required.

UOFS: A pass in Mathematics SG.

UPE: For admission to the following courses a candidate must have obtained the standard indicated in each case:

- Mathematics I, Statistics I: A pass of at least 40 % in Mathematics SG.
- Economic Statistics I, Mathematics for Economists: A pass in Mathematics SG.

PU for CHE: A pass in Mathematics SG. A student who wishes to take any of the courses in Mathematics must have obtained at least 50 % in Mathematics HG or at least 60 % in Mathematics SG. Students who obtained a lower percentage may be admitted to a Refresher Course offered by the Summer School in January. If they obtain satisfactory passes in the tests taken during the course, they may be admitted to a course in Mathematics.

UP: A candidate may not be admitted to Business Economics II, Marketing II, Economics II, Accounting II or Statistics unless he has passed Mathematics: Provided that a pass in Econometric Methods instead of Mathematics may be accepted.

RAU: A pass mark of at least 40 % (E symbol) in Mathematics HG or at least 50 % (D symbol) in Mathematics SG. Candidates who do not satisfy this requirement may be admitted on condition that they pass Mathematics Special in their first year of study.

RU: A candidate may not be admitted to Business Mathematics and Statistics unless he has obtained at least an F symbol in Mathematics HG or an E symbol in Mathematics SG; and for admission to the Accounting curriculum at least an E symbol in Mathematics HG or a D symbol in Mathematics SG.

UNISA: A pass in Mathematics for some courses.

US: An average of at least a D symbol in the matriculation or equivalent examination; and a pass of at least 40 % in Mathematics SG.

For courses in which Mathematics I is offered as a subject: A pass in Mathematics HG or at least 60 % in Mathematics SG.

For B.Comm. (with Law subjects): A pass of at least 50 % in Afrikaans First Language HG or English First Language HG.

VISTA: A pass of 40 % in Mathematics HG or SG.

UWC: A pass in Mathematics HG or SG.

UW:

- A pass in English First Language HG or a pass of at least 40 % in English Second Language HG, and
- a pass in Mathematics HG, or for curricula not including a course in Mathematics, at least 60 % in Mathematics SG, and
- a pass on the Higher Grade in one of the following subjects if Mathematics is passed on the Higher Grade, or two of the following subjects if Mathematics is passed on the Standard Grade: Bantu Language, Biology, Economics, French, Geography, German, Hebrew, History, Latin, Physical Science.

UZ: A pass of at least 40 % in Mathematics HG or at least 50 % in Mathematics SG.

Duration: Three years of full-time study or at least four years of part-time study.

Most of the universities offer more than one curriculum. A student may select his curriculum from the following fields offered by the universities mentioned.

Accountancy/Accounting: UCT, UDW, UFH, UN, UNORTH, UOFS, UPE, PU for CHE, UP, RAU, RU, UWC, UW, UZ
Accounting and Economics: UCT
Accounting and Mathematics or Statistics: UCT
Administration: UNORTH, UZ
Agricultural Economics: UNORTH, UOFS, PU for CHE, US
Business Administration: RU
Business Data Processing: UCT, UN
Business Economics: UDW, UNORTH, UOFS, PU for CHE, UP
Business Economics and Accounting or General Accounting: UPE
Business Economics/Industrial Psychology: UFH
Business Finance: UN

Commercial Computer Science: UPE, UP
Communication: RAU
Computer Science: PU for CHE, RAU
Cost Accounting: PU for CHE
Cost and Management Accounting: UNORTH
Development Administration: PU for CHE
Development Studies: RAU
Econometry/Economic Statistics: UPE, UP, RAU
Economics: UDW, UN, UNORTH, UOFS, UP, RU
Economics and Business Economics, Accounting or General Accounting: UPE
Economics and Econometrics: UPE
Economics and Money and Banking: PU for CHE
Economic Statistics/Econometrics: UPE, UP, RAU
*Education: UOFS, UPE, RAU
General: UDW, UFH, UN, UOFS, PU for CHE, RAU, RU, VISTA, US, UWC, UW, UZ
General Accounting: UPE
Industrial and Organizational Psychology: UPE
Industrial and Personnel Psychology: PU for CHE
Industrial Psychology: UOFS, RAU
Industrial Sociology: PU for CHE
Investment Management: RAU
Law subjects: UCT, UDW, UN, UNORTH, UOFS, UPE, PU for CHE, UP, RAU, RU, US, UW
Manpower Strategy and Labour Relations: RAU
Marketing: UN
Marketing Management: UP
Mathematics: UCT, UOFS, PU for CHE, US
Money and Banking: UOFS
Personnel Management: UDW, UN, UP
Psychology: RU
Public Administration: UPE
Purchasing Management: UN
Regional Development: UPE
Statistics: UDW, UNORTH, UOFS, RU
Teacher Training*: UOFS, UPE, RAU
Transport/Transport Economics: UOFS, RAU

POSTGRADUATE DEGREES

Bachelor of Commerce (Honours): B.Com.(Hons.) (UCT, UFH, UP) or B.Com.Hons. (UN)
Honoris Baccalaureus Commercii: B.Com.(Hons.) (UDW)
Bachelor or Commerce Honours: B.Com.Hons. (UNORTH)
Baccalaureus Commercii Honores: B.Com.Hons. (UOFS, UPE)
Honneurs Baccalaures Commercii: Honns.B.Comm. (PU for CHE)
Honours Bachelor of Economic and Management Sciences: B.Com.Hons. (RAU)
Bachelor of Commerce with Honours: B.Com.(Hons.) (RU) or B.Com.Hons. (UW)

Honours Bachelor of Commerce: Hons.B.Com. (UNISA, UZ) or B.Comm.Hons. (US)
Honours Baccalaureus Commercii: B.Com.Hons. (UWC)

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*See EDUCATION for degree and diploma courses with specialisation in Commerce.

Master of Commerce: **M.Com.** (UCT, UFH, UN, UNORTH, UP, RU, UNISA, UW, UZ) or **M.Comm.** (US)
Magister Commercii: **M.Com.** (UDW, UOFS, UPE, UWC) or **M.Comm.** (PU for CHE)
Master of Economic and Management Sciences: **M.Com.** (RAU)
Magister Philosophiae: **M.Phil.** (RAU)
Master of Philosophy: **M.Phil.** (UCT)

Doctor of Economic Sciences: E.Econ.Sc. (UCT)
Doctor of Philosophy: Ph.D. (UCT, UN, RU, UW)
Doctor of Commerce: D.Com. (UFH, UNORTH, UP, UNISA, UW, UZ) or D.Comm. (US)
Doctor Commercii: D.Com. (UDW, UOFS, UPE, UWC) or D.Comm. (PU for CHE)
Doctor of Economics: E.Econ. (UN, RU)
Doctor of Economic and Management Science: D.Com. (RAU)
Doctor Philosophiae: D.Phil. (RAU)

DIPLOMAS

Diploma in Commerce: Dip. Comm. (UFH)

Admission requirements: A Senior Certificate.

Duration: Three years of full-time study.

Diploma in Commerce: Dipl. Com. (UNORTH)

Admission requirements: A Senior Certificate.

Duration: Two years of full-time study.

See Appendix C for list of B.Com. subjects and Appendix F for list of B.Com.(Hons.) subjects offered by the various universities.

VOCATIONAL SERVICE: The choice of a suitable field of study and major subjects in the commercial and economic sciences is based largely on the knowledge of all the most important facets and the occupational value of that particular field. Gathering information in good time will thus contribute considerably towards preventing disappointment at a later stage.

The object of the curricula is generally of a twofold nature, viz a broad background study of the field of the economic sciences on the one hand, and study in a particular main field on the other. Postgraduate study for a degree or diploma provides for specialisation, which lays the foundation for promotion to high-level occupations. The various economic subject fields have, in addition, become more specialised so that aspects of, for instance, Mathematics, Computer Science, Psychology, Communication, Law, Sociology, etc., have either been directly involved or are combined meaningfully with the economic subject fields.

Training does not cover only the general B.Com. degree which prepares students for a variety of careers such as economist, business economist, financial or marketing manager, but also professional careers such as industrial and personnel psychologists, personnel managers, accountants and auditors. A qualification in one or other of the economic and related fields does not only give access to a wide variety of occupational fields in the public and private sector, but also creates opportunities for advanced and interesting work.

Some examples of this are the following:

B.Com. (Law): The B.Com. degree which includes law subjects does not only provide basic training in economic as well as legal subjects, but can also be rounded off with an LL.B. It is therefore a preparation for business and legal practice with prospects of appointment to various executive posts in commerce and industry as well as financial bodies such as insurance companies.

Also see Law.

Business Economics: In any organization that makes goods and services available a variety of activities involving the business managers and their subordinates are carried out. To make a meaningful study of the various activities and functions possible, the activities are divided into different functional fields. Eight fields are usually distinguished: purchases, production, finances, marketing, personnel, administration, external relations (liaison) and general management. The subject Business Economics concerns the management aspect of these eight fields.

- The purchase management is responsible inter alia for ensuring that everything needed by the organization is available at the lowest possible cost at the right time, in the right quantity and that the quality is good.

- The production management (operational management) is responsible for making goods and/or services available. This involves the manufacture of goods and/or the rendering of service as in for instance the factory, bank and supermarket.

- The financial management looks after the "financial affairs" of the organization, i.e. obtaining sufficient capital from the right source and at the right time, and using this capital correctly for the required assets. The financial situation of the organization is also analysed regularly to ensure that the business remains financially sound and to determine how it functions.

- The marketing management deals with the marketing of the company's goods and/or services. This requires careful research into the needs of users in order to make the right goods and/or services available at the right time and place, in the right form and quantities, and at the right price.

- The personnel management should ensure that the right type and number of personnel are obtained and maintained, and that the best use is made of their services so that the production factor, labour, can contribute maximally to the efficient functioning of the company.

- The administrative management is responsible for the bookkeeping, statistics, cost accounting and control as well as for the general office administration and organization. In other words, this division is concerned with the collection, processing, capturing and retrieval of information needed by management in its decision-making function.

- The management of external relations (liaison) concerns the liaison between the organization and the "outside world", i.e. persons and institutions external to it. Attempts are made particularly to establish contact and maintain sound relations with the outside world. The organization strives to promote a favourable and objective image of itself by ensuring that its achievements, progress and place in the community are fully understood.

- The business or general management involves the leaders in the organization. It concerns the role of top management and of the leaders of all the organization's activities. The emphasis is mainly on strategic management with particular reference to strategic planning, organization, command, co-ordination and management.

All institutions in the public and the private sector have a need for managers and the career opportunities are therefore unlimited. Private companies offering career opportunities include petrol companies, fertilizer companies, tobacco companies, motor manufacturers, the mining industry and financial institutions. Career opportunities are also available at Iscor, Sasol, Foskor and Armscor as well as in certain government departments and municipalities.

The above organizations/institutions all require personnel such as cost accountants, sales personnel, liaison officers, personnel officers, buyers and market researchers.

Cost Accounting: The status of as well as the demand for trained cost accountants is very high in every undertaking as a result of the important work that they do. Data made available by the cost accountant constitute the barometer for the determination of the extent to which the concern is a paying proposition and a basis for important decisions.

His knowledge is utilised by virtually all undertakings, large or small, in divisions such as cost accounting, budget control, labour remuneration, fixing of prices, managerial guidance and many other spheres in which the analysis of and control over expenditure are necessary. He is thus a key figure in the determination of development and efficiency, particularly when an undertaking finds itself in a highly competitive position. The advice and scientific calculations of the cost accountant are of great importance to the management of an undertaking, and this accounts for his high salary.

The expansion of industry, trade and the economy and the necessity of trying to keep costs and prices at a realistic level, render the prospects most attractive for cost accountants in the Public Service; commerce and industry; provincial administrations; municipalities, factories (particularly where mass production and competition play a rôle); Sasol; the Railways; the Defence Force; Iscor; the CSIR; mining and other companies; and as consultants and lecturers at educational institutions. Further study and mature experience are imperative for advancement in this occupation.

See also vocational service of Accountancy and Economics.

Industrial and Personnel Psychology: This science is related to such subject fields as Psychology, Sociology, Economics and Business Economics. It concerns itself with the study of man in the job situation and the maximum utilisation of labour as a production factor. As a result of the vital rôle of the personnel (employees) in the attainment of success, any undertaking is constantly seeking methods to motivate employees and to guide them to their optimum achievement (highest productivity). Knowledge of human conduct (behaviour) in various industrial situations has consequently become indispensable to any business administrator.

Persons with this training are employed in commerce and industry, government departments and other large undertakings such as the Railways, Iscor, Sasol, the CSIR, the Department of Posts and Telecommunications, co-operative societies, the mines, insurance companies, building societies, municipalities and banks with a view to being trained as personnel, employment, training, personnel research, organisation development, organisation and methods or general personnel officers. They can advance from these posts to personnel managers, managerial advisers and even personnel directors.

Today there is increasing recognition of the value of the services of one or more personnel managers in an undertaking, particularly where optimum utilisation of available labour is concerned. The duties of a personnel manager, though diverse in nature, are extremely interesting. In a large concern, however, it is possible that a person may be responsible for only one specialised section, for example training.

Appointment as a personnel manager will be the fruit of years of hard work as well as a period of intensive in-service training. A university degree such as B.A., B.Com., B.Econ., B.Sc., B.P.L. or B.A.(Soc.Sc.) with major subjects such as Industrial and Personnel Psychology, Psychology, Sociology, Social Work, Economics etc. would definitely be of inestimable value for accelerated promotion. It provides that extremely useful background and knowledge which are necessary when personnel managers have to deal with affairs such as the selection and placement of personnel, group relationships, motivation and morale, satisfaction derived from working conditions, planning and co-ordination, safety measures and the prevention of accidents, and so forth.

Secretarial field: The higher ranks in the secretarial profession are mainly accessible to those persons who possess recognized professional qualifications and who have acquired membership of the secretarial organizations. Every company, for example must appoint a secretary and this person occupies an extremely responsible position as chief administrative and executive officer. With his specialized knowledge of the Company Law he is an important member of the managerial team and it generally happens that he is also appointed as director.

Apart from his other duties the secretary is an important link between the directors on the one hand, and for example, the shareholders, office personnel, bankers, auditors and the public on the other. This function ensures that his work is interesting and pleasant. He must be able to handle important matters intelligently and responsibly. His status is high and he is remunerated accordingly.

The growth of industrial organizations, the annual registration of a large number of new companies and the tendency towards the forming of groups on the part of companies result in the fact that the secretary, with his specialised training, has a dynamic function to fulfil in the business world of today.

See also vocational service of PURE NATURAL SCIENCES for **Statistics/ Mathematical Statistics**

Transport Economics: Transport economics as specialization field lends itself to the study of certain forms and means of transport (by rail, road, air, sea and pipeline). Each of these forms of transport functions according to certain organizational terms and arrangements in South Africa, in separated and co-ordinated form. This study field offers the student the necessary background knowledge of transport within the field of application of subjects such as Economics, Business Economics, Mathematics and Statistics.

Employers of graduates in this field include the Department of Transport (different branches), SA Transport Services, shipping and other firms concerned with the movement of goods.

COMMUNICATION/JOURNALISM

Universities: UFH, UOFS, PU for CHE, RAU, RU, UNISA, US, UW, UZ

FIRST DEGREES

Bachelor of Arts in Communication: B.A. (Communication) (UFH)

Bachelor of Arts (Communication Science): B.A. (Communication Science) (UOFS)

Baccalaureus Artium (Communication): B.A.(Comm.) (PU for CHE)

Bachelor of Arts: B.A. (RAU, UNISA, UZ)

Bachelor of Journalism and Media Studies: B.Journ. (RU)

Additional admission requirements: As for the B.A. degree. See ARTS.

Duration: Three years of full-time study. Four years at PU for CHE. This degree grants admission to study for the M.A. degree at PU for CHE. At least three years at UNISA.

Baccalaureus Commercii (Communication): B.Comm. (Communication) (PU for CHE)

Additional admission requirements: A pass in Mathematics SG.

Duration: Four years of full-time study.

RAU also offers Communication as one of the options for the B.Com. degree. See COMMERCE.

Honours Bachelor of Journalism: B. Journalism Hons. (US)

Admission requirements: Any approved Bachelor's degree.

Duration: One year.

POSTGRADUATE DEGREES

Bachelor of Arts in Communication (Honours): B.A.(Com.)(Hons.) (UFH)
Baccalaureus Artium Honores (Communication Science): B.A.Hons. (Communication Science) (UOFS)
Honours Bachelor of Arts: Hons.B.A. (RAU, UNISA)
Bachelor of Arts with Honours: B.A.(Hons.) (RU)

Master of Arts in Communication: M.A.(Com.) (UFH)
Magister Artium (Communication Science): M.A. (Communication Science) (UOFS)
Master of Arts: M.A. (PU for CHE, RAU, RU, UNISA)
Master of Journalism: M. Journalism (US)

Doctor Philosophiae: D.Phil. (UOFS, PU for CHE, US)
Doctor of Philosophy: Ph.D. (RU)
Doctor of Literature and Philosophy: D.Litt. et Phil. (RAU, UNISA)

POSTGRADUATE DIPLOMAS

University Diploma in Communication (PU for CHE)

Admission requirements: An approved Bachelor's degree.

Duration: One year of full-time study or two years of part-time study.

This Diploma grants admission to the Honours degree in Communication.

Postgraduate Diploma in Communication (RAU)

Admission requirements: A Bachelor's degree.

Duration: Two years.

Higher Diploma in Journalism (Postgraduate): H.Dip.Journ.(PG) (RU)

Admission requirements: Any Bachelor's degree with the exception of the B.Journ. degree.

Duration: One year.

Higher Diploma in Communication Studies: H.Dip.C.S. (UW)

Admission requirements: A Bachelor's degree.

Duration: One year of full-time study or two years of part-time study.

VOCATIONAL SERVICE: In years to come Communication will play an increasingly important rôle in respect of human and international relations. It opens up the new world of the twentieth century in which things occur at a staggeringly fast pace and in which motives and objectives of individuals and nations may easily be misinterpreted. Communication media such as newspapers, the radio, television, magazines and the cinema have made the world shrink, so that today little remains hidden in any part of the world.

In this changing world, man has an increasing need of reliable information about what is happening around him. Therefore more demands are made upon the person who relays information to others, and the emphasis is on what is relayed and how it is relayed. Thus the task of the communication scientist demands that the information which he/she relays, will be compiled in such a way that it will have the biggest impact and will lead to mutual understanding and trust between individuals and nations.

Some of the career possibilities for which a student is equipped by Communication, are journalism, liaison work, advertising and information services.

- Journalism: The field of journalism as a career, with its many branches, is expanding and the adventure and fascination connected with it are increasing. Although most journalists start working for daily newspapers, journalism is not restricted to these media. The radio, for example, offers challenging career prospects. In addition, the television service in South Africa offers various opportunities to graduates in Communication/Journalism.

  Because of the high demands made upon television journalists, not one of them can be employed untrained; they must be thoroughly trained and equipped for their task. However, television does not imply the end of newspapers, journals or the radio. Nevertheless these media will be obliged to run their communication along even better and more effective lines. This will demand thoroughly trained personnel. Although a matriculant may be employed by an enterprise as apprentice journalist to receive in-service training, university training today has become virtually essential, since it provides an important academic background and contributes to the enrichment of knowledge about people and affairs. Normally a person in possession of a degree or diploma will enjoy preference when it comes to promotion.

- Liason: In a dynamic society where competition intensifies daily and personal contact within organizations decreases, the sustained reinforcement of a positive image is indispensable for any enterprise. Hardly any large organization can function effectively nowadays without liaison staff.

  Employers are, for example, the Public Service, local authorities, statutory bodies, international organizations, universities and other educational institutions, welfare organizations, newspapers, the SABC, insurance companies, and so forth. An increasing number of women are employed in this field and the enterprising person with imagination and willingness to work hard, will find a rewarding career in the sphere of liaison.

- Advertising: The nature of the work in the advertising industry is really dynamic and the publicity officers or advertising agents must regularly keep pace with new trends and developments in their field. For a person interested in the skilful and creative handling of languages, there is tremendous scope as a writer of advertisements. However, advertising is not restricted to this. The advertising agent is to an increasing extent becoming a key figure in publicising a concern. For the person who has the necessary training and appropriate characteristics, there is scope to open up his own undertaking in time and to expand it into a lucrative advertising agency. This profession is also highly suitable for women.

Media officer (Public Service): In the execution of its public task the Public Service makes ample use of publications in the form of annual reports, brochures, magazines, pamphlets and posters. It is the task of a media officer to ensure that the publications issued by his department are attractive, well-presented and of outstanding quality. His work includes, inter alia, the following duties: gathering information, visual and illustrative material for use in publications; writing copy in both official languages; managing the overall editing of a publication; liaising and negotiating with authors, liaison officers, photographers and so forth; answering any enquiries about articles, reports and programmes. In certain departments they do radio work.

Other careers in the Public Service for persons who hold a degree in Communication are, inter alia, those of Community Liaison Officer, Cultural Officer, Sport Advancement Officer, Road Safety Officer. See also Foreign Affairs Officer under the vocational Service of ARTS.

Communication can be combined to advantage for some occupations with other subjects, for example, with Industrial Psychology for the personnel officer; with Drama and Theatrical Art for the person who chooses the stage, television, cinema or microphone as a career; with Library Science for a career in librarianship; with Psychology or Sociology for a research post in, for example, the service of the HSRC.

Also consult Tertiary Training for particulars on the National Diploma (Journalism).

COUNSELLING PSYCHOLOGY

Universities: UDW, UFH, UN, UOFS, UPE, PU for CHE, UP, RAU, RU, UNISA, US, UWC

DEGREES

Hons. B.A. (Counselling Psychology) or

Hons. B.Sc. (Counselling Psychology) (US)

Admission requirements: Graduates with a major in Counselling Psychology who are already employed as counselling psychologists, such as school psychologists, psychologists in the Department of Manpower, or in Social Services.

Duration: Three years of part-time study.

M.A. (Counselling Psychology) or

M.Sc. (Counselling Psychology) (US)

Admission requirements: Students who hold the Honours degree in Counselling Psychology, and who are already employed as counselling psychologists.

Duration: One academic year.

Magister Artium in Counselling Psychology: M.A. (Counselling Psychology) (UDW) or M.A. (Couns. Psych.) (UPE)
Master of Science in Counselling Psychology: M.Sc. (Counselling Psychology) (UDW)
Master of Arts: M.A. (UFH, UN, RAU, RU)
Master of Science: M.Sc. (UFH, RU)
Magister Artium: M.A. (PU for CHE)
Magister Societatis Scientiae (Counselling Psychology): M.Soc.Sc. (Counselling Psychology) (UOFS)
Master of Arts (Counselling Psychology): M.A. (Counselling Psychology) (UOFS)
Master of Science (Counselling Psychology): M.Sc. (Counselling Psychology) (UOFS)
Master of Arts in Counselling Psychology: M.A. (Counselling Psychology) (UP, UNISA)
Magister Psychologiae: M.Psych. (UWC)

Admission requirements: An Honours degree in Psychology.

Duration: Two years. One year of theory and practical work and one year of full-time internship at an institution approved by the South African Medical and Dental Council. A dissertation must also be submitted.

Doctor's degrees: See ARTS, PURE NATURAL SCIENCES and SOCIAL SCIENCE.

VOCATIONAL SERVICE: See Psychology under ARTS.

DENTAL THERAPY

Universities: UDW, MEDUNSA

FIRST DEGREES

Bachelor of Dental Therapy (UDW)

Additional admission requirements: Passes in Mathematics HG and Biology HG or Physical Science HG or 50 % SG in the subjects mentioned.

Duration: Three years of full-time study. Students must do vacation work in approved clinics.

Bachelor of Dental Therapy: B. Dent. Ther. (MEDUNSA)

Additional admission requirements: Passes in Mathematics, Physical Science and Biology.

Duration: Three years.

POSTGRADUATE DEGREE

Bachelor of Dental Therapy (Honours): B.Dent.Ther.(Hons.) (MEDUNSA)

VOCATIONAL SERVICE: The dental therapist works under the supervision of a dentist in approved State dental clinics and hospitals.

DENTISTRY

Universities: MEDUNSA, UP, US, UWC, UW

FIRST DEGREES

Bachelor of Dental Surgery: B.Ch.D. (MEDUNSA)

Bachelor of Dental Science: B.Ch.D. (UP)
or B.D.S. (UW)

Bachelor of Dentistry: B.Ch.D. (US)

Baccalaureus Chirurgiae Dentium: B.Ch.D. (UWC)

Additional admission requirements:

MEDUNSA: Passes in Mathematics, Biology and Physical Science.

UP: As for the B.Sc. degree. See PURE NATURAL SCIENCES.

US: At least 16 years of age; and a pass in Mathematics SG or HG. Prospective students are strongly advised to take Physical Science and/or Biology and/or Physiology for the Std 10 examination.

UWC: A minimum pass mark of 40 % in Mathematics HG or 50 % in Mathematics SG. Physical Science will be a strong recommendation.

UW: A pass in Mathematics HG or at least 60 % in Mathematics SG and a pass in one of the following subjects if Mathematics has been passed on the Higher Grade, or two of the following subjects if Mathematics has been passed on the Standard Grade: Bantu Language, Biology, French, Geography, German, Hebrew, History, Latin, Physical Science, Physiology.

Duration: 5½ years of full-time study. The course extends over 5 years at MEDUNSA plus one year of internship after graduating before students may register with the SA Medical and Dental Council as dentists. Students undertake practical and clinical work in the oral and dental hospital attached to the university concerned.

Bachelor of Science in Oral Biology: B.Sc. (Oral Biology) (UW)

Additional admission requirements: As for the B.D.S. degree.

Duration: Four years of full-time study.

This degree is designed for students who wish to follow a career in biological research and teaching, particularly in the field of dental science.

POSTGRADUATE DEGREES

Bachelor of Science in Dentistry (Honours): B.Sc.Dent.(Hons.) (MEDUNSA)
Bachelor of Dental Science Honours: B.Ch.D.(Hons.) (UP)
Honours Bachelor of Science in Dental Sciences: Hons.B.Sc.(Dent.Sc.) (US)
Honours Bachelor in Dentistry: Hons.B.Ch.D. (US)

Master of Dentistry: M.Dent. (MEDUNSA, UW)

Master of Dental Science: M.Ch.D. (UP)

Master of Dentistry: M.Ch.D. (US)

Magister Chirurgiae Dentium: M.Ch.D. (UWC)

Admission requirements: A B.Ch.D. or B.D.S. degree and registration with the SA Medical and Dental Council as a dentist.

Duration: Three or four years of full-time study depending on the field of study and the university.

The degree is offered as follows in the various branches by the universities mentioned:

Community Dentistry - MEDUNSA, UP, US, UWC, UW
Maxillo-facial and Oral Radiology - UW
Maxillo-facial and Oral Surgery - MEDUNSA, UP, US, UWC, UW
Oral Pathology - UP, US, UW
Orthodontics - UP, US, UWC, UW
Periodontics - UP
Periodontics and Oral Medicine - US, UWC, UW
Prosthodontics - UP, US, UWC, UW

Master of Dental Sciences: M.Sc.Dent. (MEDUNSA) or M.Dent. (UP)
Master of Science in Dental Sciences: M.Sc. (Dental Sciences) (US)
Master of Science (Odontology): M.Sc. (Odont.) (US)
Magister Scientiae Dentium: M.Sc. (Dent.) (UWC)
Master of Science in Dentistry: M.Sc. (Dent.) (UW)

Doctor of Dentistry: D.Dent. (MEDUNSA)
Doctor of Dental Sciences: Ph.D. (MEDUNSA)
Doctor of Dental Science: D.Ch.D. (UP)
Doctor of Science (Odontology): D.Sc. (Odont.) (US)
Doctor of Philosophy (Odontology): Ph.D. (Odont.) (US)
Doctor Philosophiae: Ph.D. (UWC)
Doctor of Philosophy: Ph.D. (UW)
Doctor of Science in Dentistry: D.Sc. (Dent.) (UW)

DIPLOMAS

Diploma in Community Health (Dent.) (UP)

Admission requirements: Candidates must have held the degree of B.Ch.D. for at least two years and must be registered with the SA Medical and Dental Council as a dentist.

Duration: Two years of part-time study.

Diploma in Health Administration (Dent.) (UP)

Admission requirements: Candidates must have held the degree of B.Ch.D. for at least two years and must be registered with the SA Medical and Dental Council as a dentist.

Duration: Two years of part-time study. Candidates who hold the Diploma in Community Health (Dent.) are admitted directly to Part II of the course.

VOCATIONAL SERVICE: Most dentists in the country end up in private practices. These offer perhaps the ideal working conditions, although the high cost of equipment and running expenses should be borne in mind. There are opportunities of going into partnership and the income will vary according to the size of the practice. Dentists can also enter the service of the Department of Health and Welfare, or other organisations at an established rate of remuneration. Examples are the education departments of the four provinces who use dental officers to visit schools; the hospitals; large municipalities; certain major industries such as Iscor and the mines, and so forth. Certain universities employ a small number of dentists as dental professors and lecturers. Some of them also undertake research. Dentists may also specialise, for example in orthodontics (straightening irregular growth of teeth and other abnormalities of the dentures), prosthodontics (the fitting of false teeth, etc.) and maxillo and oral surgery.

DEVELOPMENT STUDIES/BANTU STUDIES

Universities: UFH, PU for CHE, RAU, UNISA, UWC, UZ

Development Studies is one of the options for the B.Com. degree as offered by RAU (see COMMERCE) and a major subject for the B.A. degree at UFH, RAU and UZ.

FIRST DEGREE

Honours Baccalaureus Artium in Development Studies: B.A.Hons. (Development Studies) (UWC)

Admission requirements: A Bachelor's degree.

Duration: One year of full-time study.

DIPLOMAS

University Diploma in Bantuistics (PU for CHE)

Admission requirements: An approved Bachelor's degree.

Duration: One year of full-time study or two years of part-time study.

Diploma in Development Studies (UNISA)

Admission requirements: A Senior Certificate.

Duration: At least two years.

VOCATIONAL SERVICE: The study comprises an interdisciplinary study of the Black population group of Southern Africa. The purpose of the course is to lead the student to the living world and living conditions of the Black population group. The Diploma is of special value to missionaries, officials in government departments, agricultural officers, journalists, etc. See also Vocational Service of ARTS: Development Administration.

DIETETICS

Universities: MEDUNSA, UN, UOFS, PU for CHE, UP, US

FIRST DEGREES

Bachelor of Science in Dietetics: B.Sc. (Diet.) (MEDUNSA)

Bachelor of Science in Dietetics: B.Sc.Diet. (UN)

Baccalaureus Scientiae with Dietetics: B.Sc. (PU for CHE)

Additional admission requirements:

MEDUNSA: Passes in Mathematics and in at least one science subject.

UN: As for the B.Sc.Agric. degree. See AGRICULTURE.

PU for CHE: As for the B.Sc. degree. See PURE NATURAL SCIENCES. Prospective students are strongly recommended to take Physical Science for the Std 10 examination.

Duration: Three years of full-time study. Students are required to obtain the Diploma in Hospital Dietetics after obtaining the above-mentioned degree, in order to register with the SA Medical and Dental Council as a dietician.

Bachelor of Science in Dietetics: B.Sc. (Dietetics) (UOFS)

Bachelor of Dietetics: B.Dietetics (UP)

Bachelor of Science in Dietetics: B.Sc. in Dietetics (US)

Additional admission requirements:

UOFS: A pass in Mathematics SG.

UP: Passes of at least 40 % in Mathematics HG and in Physical Science HG or at least 50 % SG in these subjects.

US: As for the B.Sc. degree. See PURE NATURAL SCIENCES.

Duration: Four years of full-time study.

POSTGRADUATE DEGREES

Bachelor of Science in Dietetics (Honours): B.Sc.(Diet.)(Hons.) (MEDUNSA) or B.Sc.Diet.Hons. (UN)
Honneurs Baccalaureus Scientiae: Honns.B.Sc. (PU for CHE)
Bachelor of Dietetics (Honours): B.Dietetics (Hons.) (UP)
Honours Bachelor of Science: Hons.B.Sc. (US)

Master of Science in Dietetics: M.Sc.(Diet.) (MEDUNSA) or M.Sc.Diet. (UN) or M.Sc. (Dietetics) (UOFS)
Magister Scientiae: M.Sc. (PU for CHE)
Master of Dietetics: M.Dietetics (UP)
Master of Science: M.Sc. (US)

Doctor of Science in Dietetics: Ph.D. (MEDUNSA)
Doctor of Philosophy: Ph.D. (UN, US)
Doctor Scientiae: D.Sc. (PU for CHE, US)
Doctor of Science in Dietetics: D.Sc. (Dietetics) (UP)

DIPLOMAS

Postgraduate Diploma in Hospital Dietetics (UN)

Admission requirements: A B.Sc. degree in Dietetics or in Home Economics.

Duration: A candidate must complete a course of training of 12 months' duration at a teaching hospital recognised by the University and pass the prescribed written and oral examinations.

Diploma in Hospital Dietetics (UOFS, US)

Admission requirements: B.Sc. in Home Economics (dietetic field) or B.Sc. with Dietetics and Physiology as major subjects or another B.Sc. degree in Home Economics provided that such candidate completes supplementary work before admission to the course.

Duration: The Diploma will be awarded to those students who have satisfactorily completed 12 months' service and instruction in an approved hospital and have passed an examination.

Postgraduate Diploma in Hospital Dietetics (UP)

Admission requirements: B.Sc. (Dietetics) or B.Sc. (Home Economics) (major field: Food and Nutrition) or an equivalent qualification. Candidates are selected.

Duration: One academic year. Theoretical instruction takes place at Kalafong Hospital in the Klinikala Building during January. Practical training is undertaken at approved institutions.

VOCATIONAL SERVICE: Dietetics is one of the ideal courses for a girl who is orientated towards the natural sciences. Although the work is related to that of a home economist, the dietician is a person who interprets the science of nutrition in terms of food for healthy as well as sick people. The ultimate aim of the dietician is therefore the advancement of good health by means of correct nourishment. Job opportunities on the grounds of basic, or in some cases postgraduate qualifications, are *inter alia*, the following:

> Hospital dietetics: Having obtained the one-year Diploma in Hospital Dietetics the dietician is responsible for the organization and administration of the hospital kitchen. As a member of the medical team she undertakes ward rounds, therapeutic guidance and the planning of special diets.

- The consultant dietician in private practice compiles therapeutic diets for patients who have been referred to her by medical doctors.

- A nutrition counsellor in the Nutrition Division of the Department of Health Services and Welfare is an important member of a team responsible for guidance services on the matters of health. She manages her task of guidance of nutrition by means of lectures, radio talks, films and film strips, short courses, replies to enquiries, etc.

- Research work undertaken by the MRC, CSIR, SABS, clinical units, hospitals and the food industry; or

- a journalist who writes women's columns in periodicals and newspapers and for the radio, television and advertising companies or who acts as a travelling representative.

A dietician consequently has the opportunity, in accordance with her training, to choose from among fields such as guidance, hospital work, large company catering, research, education or a private practice. The field which she chooses will determine the nature of her work.

DRAMA

Universities: UCT, UDW, UN, UOFS, PU for CHE, UP, RU, US, UW, UZ

FIRST DEGREES

Bachelor of Arts with three courses in Drama: B.A. (UCT)

Additional admission requirements: See ARTS.

Duration: Three years of full-time study. It is possible for a student to complete a B.A. degree together with the Speech and Drama Performer's course in a minimum period of study of four years.

Baccalaureus Artium with Speech and Drama as a major subject: B.A. (UDW)

Bachelor of Arts with Speech and Drama as a major subject: B.A. (UN, RU, UZ)

Additional admission requirements: As for the B.A. degree. See ARTS.

Duration: Three years of full-time study.

Bachelor of Arts (Drama and Theatre): B.A. (Drama and Theatre) (UOFS)

Bachelor of Arts with Speech and Interpretation or Theatrical Art or Dramatic Art as major subjects: B.A. (PU for CHE)

Bachelor of Arts in Drama: B.A. (Drama) (UP)

Bachelor of Drama: B. Drama (US)

Additional admission requirements: As for the B.A. degree. See ARTS.

At UP first-year students will be tested during the orientation period in order to determine whether they have the ability to attend the course with profit.

Duration: Three years of full-time study.

Bachelor of Arts in Dramatic Art: B.A. (Dramatic Art) (UW)

Additional admission requirements: As for the B.A. degree. See ARTS.

Duration: Four years of full-time study.

The University of the Witwatersrand also offers the degree of B.A. with three qualifying courses in Drama and Film.

POSTGRADUATE DEGREES

Bachelor of Arts (Honours): B.A.(Hons.) (UCT) or B.A.Hons. (UN)
Honoris Baccalaureus Artium: B.A.Hons. (UDW)
Baccalaureus Artium Honores (Drama and Theatre): B.A.Hons. (Drama and Theatre) (UOFS)
Honneurs Baccalaureus Artium: Honns.B.A. (PU for CHE)
Bachelor of Arts Honours in Drama: B.A.(Drama)(Hons.) (UP)
Bachelor of Arts with Honours: B.A.(Hons.) (RU)
Honours Bachelor of Drama: Hons.B.Drama (US)

Master of Arts: M.A. (UCT, UN, RU)
Magister Artium: M.A. (UDW, PU for CHE)
Master of Arts (Drama and Theatre): M.A. (Drama and Theatre) (UOFS)
Master of Arts in Drama: M.A.(Drama) (UP)
Master of Drama: M.Drama (US)
Master of Arts in Dramatic Art: M.A. (Dramatic Art) (UW)

Doctor Philosophiae: D.Phil. (UDW, UOFS, UP, US)
Doctor of Philosophy: Ph.D. (UCT, UN, RU, UW)
Doctor Litterarum: D.Litt. (PU for CHE)
Doctor of Literature: D.Litt. (UCT, UN, UP, RU, UW)

DIPLOMAS

Performer's Diploma in Speech and Drama: P.D.S. & D. (UCT)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). A Senior Certificate may be accepted. A student must have shown marked talent as a performer. An audition with a member of the Speech and Drama Department is necessary.

Duration: Three years of full-time study; four years if taken together with a B.A. degree course.

Diploma in Play Production (UN)

Admission requirements: Bachelor's degree with Speech and Drama as a major subject.

Duration: One year of full-time study or two years of part-time study.

Diploma in Speech and Drama (PU for CHE)

Admission requirements: A Senior Certificate.

Duration: Three years of full-time study. The curriculum of this diploma corresponds with the degree course, but it is intended for students who did not obtain Matriculation Exemption.

University Diploma in Theatrical Art (PU for CHE)

Admission requirements: Bachelor's degree with Theatrical Art as a major subject or the Diploma in Speech and Drama or an equivalent qualification.

Duration: One year.

Diploma for Stage Managers (US)

Admission requirements: A Senior Certificate with an aggregate of at least 50 %.

Duration: Two years of full-time study.

See EDUCATION for teachers' courses with specialisation in Drama.

VOCATIONAL SERVICE: Drama as subject is intended for students who are interested in the theatre and related arts, without necessarily wanting to participate actively in practice or in an executive capacity. The history and development of the theatre and drama are studied within the social context of the time. Attention is paid to drama analysis with a view to presentation, theatre review and playwriting.

Speech Training is intended for students who wish to improve their speech, develop public confidence, and acquire knowledge and a love of literature. Students are also given practice in the interpretation of poetry and prose individually and in a group.

Theatrical Art as a subject is intended for the talented student who wishes to follow a career as actor, director or drama lecturer. It is in the first place a practical subject. The emphasis is on acting and direction; makeup and decor design; technical aspects such as sound and lighting, and creative movement.

Students include ordinary B.A. subjects such as English and Afrikaans, modern languages, Psychology and History in their courses.

The general aim of these subject fields is to train inter alia teachers, (provided the subject combination meets the requirements), journalists, radio announcers and radio and television actors properly for their task. Fields available in the theatre include acting, direction, design and stage management. The performing arts councils of the four provinces in particular offer career opportunities in this regard. Drama training is no guarantee however that a graduate will obtain a job in the theatre. The councils work selectively and only the best students are considered.

The SABC provides further training in radio and broadcasting after which persons can work as announcers, programme organizers, and producers, according to their training, personality, voice, creative skill, organizational ability and general aptitude. Persons with the necessary skill have the opportunity to take part in radio and television dramas. As is the case with stage artists, successful completion of the course is no guarantee of a job with the SABC.

Some fields require specialization and ample provision is made for this by the universities.

Also consult Tertiary Training for particulars on the National Diploma in Performing Art.

ECONOMICS

Note: Economics is one of the options for the B.Com. degree and the B.Bus.Sc. degree as well as a subject for the B.A. and B.Com. degrees and even a B.Sc. subject at some universities. See COMMERCE and BUSINESS SCIENCE.

Universities: UOFS, PU for CHE, RU, US, UWC, UW

FIRST DEGREES

Bachelor of Economics: B.Econ. (UOFS, RU)

Baccalaureus Economicae: B.Econ. (UWC)

Bachelor of Economic Science: B.Econ.Sc. (UW)

Additional admission requirements: As for the B.Com. degree. See COMMERCE. The University of the Witwatersrand requires a pass in Mathematics on the Higher Grade.

Duration: Three years of full-time study. RU also offers B.Econ. (Mineral Economics) with Geology and Economics as major subjects.

Bachelor of Science with Economic subjects: B.Sc. (PU for CHE)

Additional admission requirements: As for the B.Sc. degree. See PURE NATURAL SCIENCES.

Duration: At least three years of study.

Bachelor of Economic Sciences: B.Econ. (US)

Additional admission requirements: A pass of at least 40 % in Mathematics SG should Statistics and Mathematics be included in the choice of subjects.

Duration: Three years of full-time study or four years of extramural study.

POSTGRADUATE DEGREES

Baccalaureus Economiae Honores: B.Econ.Hons. (UOFS)
Bachelor of Economics with Honours: B.Econ.(Hons.) (RU)

Honours Bachelor of Economic Sciences: B.Econ.Hons. (US)
Honours Baccalaureus Economicae: B.Econ.Hons. (UWC)
Bachelor of Economic Science with Honours: B.Econ.Sc.Hons. (UW)

Magister Economiae: M.Econ. (UOFS)
Master of Commerce: M.Com. (RU)
Master of Economic Sciences: M.Econ. (US)
Magister Economicae: M.Econ. (UWC)
Master of Economic Science: M.Econ.Sc. (UW)

Doctor Economiae: D.Econ. (UOFS)
Doctor of Economics: D.Econ. (UN, RU)
Doctor of Philosophy: Ph.D. (UCT, UN, RU, UW)
Doctor of Economic Sciences: D.Econ. (US)
Doctor Economicae: D.Econ. (UWC)
Doctor of Economic Science: D.Econ.Sc. (UCT, UW)

VOCATIONAL SERVICE: The economic sciences deal with man's activities in providing for his manifold needs with the limited resources available. These activities centre on the basic functions of production, distribution (barter) and consumption. Economics therefore involves the study of actions by the individual consumer to provide for his needs in the most effective way, and actions by the producer to provide as efficiently as possible for the needs of the consumer while ensuring a fair profit for himself. However since the economy of a country does not concern only individuals and institutions, it should therefore also be examined as a whole in order to determine the country's total production, consumer spending and their interdependence. A study of the economy involves matters such as state finance, labour and population issues, money and banking, development economics, planning economics, agricultural economics and international economic relations.

A degree in the economic and related sciences offers excellent preparation for a wide series of careers in the Public Service and in commerce and industry. Economics is also one of the subjects offered by all the universities as a major or subsidiary subject for the B.A. degree.

In the Public Service a person who majored in Economics and Geology can be appointed as an assistant mineral economist. Other government departments require other major subjects combined with Economics, for instance Business Economics, Accountancy or Agricultural Economics.

Other institutions employ graduates in Economics and related fields as economic advisors, financial consultants, researchers, etc. inter alia to interpret trends, make projections on production, markets and prices, and assist in the planning of the institution as a whole. Such employers include the HSRC, Iscor, Sasol, the Transport Services, the Federated Chamber of Industry, the Association of Chambers of Commerce, commercial banks, building societies, insurance companies, market agents and other commercial and industrial businesses.

EDUCATION

Universities: All the universities except MEDUNSA

UNIVERSITY OF CAPE TOWN

(a) **Secondary teachers' courses**:

Higher Diploma in Education (Postgraduate): Secondary: One year after an approved Bachelor's degree with at least two teaching subjects. In one of the teaching subjects three courses must have been completed and in the other, at least two courses.

Higher Diploma in Education (Technical): Secondary: One year of full-time study after one of the following:

- A degree in Engineering, Pure Sciences or Applied Science
- Higher National Diploma for Technicians (four-year course)
- National Diploma for Technicians (three-year course)
- a recognised equivalent of any one of the above.

This Diploma is intended for prospective teachers in technical high schools.

Higher Diploma in Education (Commerce): Secondary: Four years of full-time study after a Senior Certificate with a pass in both of the official languages on the Higher Grade, at least one of which must be passed as a first language on the Higher Grade, and a pass on the Higher Grade in at least one other subject other than the official languages. The course, which is given in collaboration with the Cape Technikon provides training for secondary school teachers of commercial subjects.

Higher Diploma in Education (Home Economics): Secondary: Four years of full-time study after a Senior Certificate with a pass in both the official languages on the Higher Grade, at least one of which must be passed as a first language on the Higher Grade, and a pass on the Higher Grade in at least one other subject other than the official languages. The course, which is given in collaboration with the Cape Technikon provides training for secondary school teachers of Home Economics.

Bachelor of Arts (Art) - B.A.(Art): Three years of full-time study after a Matriculation or Senior Certificate (Matriculation Exemption). Students are admitted to the course for the Higher Diploma in Education (Postgraduate): Secondary after graduation. See FINE ARTS for additional admission requirements.

Bachelor of Music: Education - B.Mus. Education: Four years of full-time study after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). See MUSIC for additional admission requirements. In their fourth year students are admitted to the course for the Higher Diploma in Education (Postgraduate): Secondary.

Further Diploma in Education: One year of full-time study or two years of part-time study after a three-year approved teacher's qualification in Home Economics or Commerce or Industrial Arts.

This course is available to in-service teachers who hold an M+3 qualification to enable them to upgrade their qualifications to M+4.

(b) Primary teachers' courses

Bachelor's degree in Primary Education - B.Prim.Ed.: Four years of full-time study after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). Additional admission requirements as for the B.A. degree. See ARTS.

Higher Diploma in Education (Postgraduate): Primary: One academic year after an approved degree including prescribed school subjects. This Diploma is intended for Arts and Science graduates who wish to teach in a primary school.

(c) Primary and/or secondary teachers' courses

Teacher's Licentiate Diploma in Music: Four years after a Senior Certificate. Additional admission requirements as for B.Mus. degree. See MUSIC.

Higher Diploma (Speech and Drama) in Education: One year after an approved three-year education diploma.

(d) Other teachers' courses

Diploma in Specialised Education: (Remedial): One academic year after an approved three-year teacher's certificate and at least two years' teaching experience in schools.

Diploma in Specialised Education: (Mentally Handicapped): One academic year after an approved three-year teacher's certificate.

Diploma in Teaching Physiotherapy: See PHYSIOTHERAPY.

Diploma in Teaching Radiography: See RADIOGRAPHY.

Diploma for Educators of Adults: Two years of part-time study after a university degree or a full-time, two-year post-matriculation qualification approved by the Senate, or any other qualification of a standard accepted by the Senate as the equivalent of either of the aforementioned requirements.

This course is recognised by the Department of National Education for salary purposes. It is not intended for those seeking employment in provincial education department schools.

UNIVERSITY OF DURBAN-WESTVILLE

(a) Secondary teachers' courses

Baccalaureus Paedagogiae in Arts - B.Paed.(Arts)

Baccalaureus Paedagogiae in Commerce - B.Paed.(Commerce)

Baccalaureus Paedagogiae in Home Economics - B.Paed.(Home Econ.)

Baccalaureus Paedagogiae in Science - B.Paed.(Science)

Each of the curricula of the above-mentioned four degrees is a four-year integrated academic and professional degree curriculum which fulfils all the requirements for the degree concerned as well as the requirements for the training of teachers for secondary schools.

Additional admission requirements:

B.Paed. (Commerce): A pass in Mathematics HG or at least 50 % in Mathematics SG.

B.Paed. (Home Econ.): A pass in Mathematics or a science subject HG or SG.

B.Paed. (Science): A pass in Mathematics HG and in a science subject HG or at least 50 % SG in the subjects mentioned.

Baccalaureus Musicae in Education - B.Mus.(Ed.): See MUSIC.

University Higher Diploma in Education - U.H.D.E.: One year of full-time study after an approved degree which includes the prescribed courses in the required school subjects.

(b) Primary teachers' courses

Baccalaureus Paedagogiae in Primary Education - B.Paed.(Prim.Ed.): Four years of full-time study after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

University Higher Diploma in Education (Primary School direction) - U.H.D.E.: One year of full-time study after an approved degree which includes the prescribed courses in the required school subjects.

(c) Other teachers' courses

Diploma for Teachers of the Deaf and Hard of Hearing: One year of full-time study or two years of part-time study after an approved three-year teacher's diploma obtained after full-time study at a recognised institution and at least two years' teaching experience at an ordinary school or one year's experience at a school for special education.

Diploma in Specialised Education (Remedial Education): One year of full-time study or two years of part-time study after an approved three-year teacher's diploma, or an approved degree and an approved teacher's diploma, or an approved combined education degree, plus at least two years' teaching experience.

Diploma in Specialised Education (Special Education - Mentally Handicapped): As for the above-mentioned Diploma.

University Education Diploma in Resource Centre Management - U.E.D. (R.C.M.): Two years of part-time study after an approved three-year teaching qualification, or a postgraduate teacher's diploma and three years' approved classroom experience. Students will be attached to a Resource Centre in a school throughout the two years of the course.

Diploma in the Teaching of Physiotherapy: See PHYSIOTHERAPY.

UNIVERSITY OF FORT HARE

(a) Secondary teachers' courses

Bachelor of Pedagogics - B.Ped.: Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). This is an integrated professional degree which may be obtained in any of the following options:

- Arts (major subjects - Afrikaans-Nederlands, Xhosa/Sotho, Biblical Studies, English, Geography, History)
- Science (major subjects - Chemistry or Physics, Botany or Zoology, Mathematics, Geography)
- Economic Sciences
- Music
- Agriculture
- Physical Education.

Higher Secondary Teachers' Diploma - H.S.T.D.: Three years after a Senior Certificate. The Diploma may be obtained in any of the following options: Arts, Science, Economic Sciences, Fine Arts, Physical Education, Music, Agriculture.

Higher Education Diploma (Graduate) - H.E.D.: One year after an approved university degree which includes the prescribed courses in school subjects.

Higher Education Diploma (Non-graduate) - H.E.D. (Non-grad.): One year after a student has completed courses of study towards an approved degree, in such a manner that all the requirements of the degree may be fulfilled by one further year of study.

Secondary Teachers' Diploma - S.T.D.: Two years after a Senior Certificate. The Diploma may be obtained in any of the following options: Arts, Science, Economic Sciences, Fine Arts, Music, Physical Education.

(a) Secondary teachers' courses

Higher Diploma in Education (Postgraduate) and the Higher Diploma in Education (Non-graduate): One year after an approved degree containing the prescribed courses in the required school subjects.

Candidates must have obtained a pass in both official languages in the matriculation or equivalent examination with at least one on the Higher Grade.

Candidates for the Higher Diploma in Education (Non-graduate) are those who require at least two courses at first-year level or one course at second-year level in order to obtain an approved degree, provided that he/she has already successfully completed his/her teaching subjects. This Diploma may be converted into the Higher Diploma in Education (Postgraduate) on completion by the candidate of the remaining requirements for such diploma.

University Education Diploma (Postgraduate) and the University Education Diploma (Non-graduate): The rules for the Higher Diploma in Education (Postgraduate) and (Non-graduate) will also apply to these two diplomas, except for the following differences:

- Candidates do not need to pass in the official languages in the matriculation or equivalent examination.
- The curriculum of candidates need contain Secondary School Method in only one subject and need not contain Religious Instruction.

Higher Diploma in Education: Four years of full-time study after a Senior Certificate, a pass in both official languages with at least a pass in the first language on the Higher Grade; and a pass in one further subject, excepting the official languages, on the Higher Grade. The curriculum must be completed in one of the following fields of study offered in conjunction with the Technikon Natal, Durban: Art, Commercial Subjects, Home Economics, Technika - Electrical or Electronics or Mechanical.

Passes in Mathematics (preferably on the Higher Grade) and in Science in the senior certificate examination are required for the last-mentioned field of study.

Higher Diploma in Education: Four years of full-time study after a Senior Certificate with a pass in the first language on the Higher Grade and a pass in the second language either on the Higher Grade with an F symbol or on the Standard Grade with an E symbol; and another subject passed on the Higher Grade; and an aggregate of 900 marks. The curriculum must be completed in one of the following fields of study offered in conjunction with the Edgewood College of Education, Pinetown: Arts, Science.

Higher Diploma in Education (Technical): Two years of part-time study after

- a Senior Certificate including both official languages with at least one passed on the Higher Grade, or at least four subjects at NTC III level plus the two official languages with at least one passed on the Higher Grade, or other equivalent qualifications, and
- a National Diploma in a specialist direction or equivalent, or a foreign qualification evaluated as being equivalent.

This Diploma is offered in conjunction with the Technikon Natal.

Higher Diploma in Education (Post-school): Two years of part-time study after

- a Senior Certificate including both official languages with at least one passed on the Higher Grade, or other equivalent qualifications, and
- an approved three-year education diploma that includes at least two school subjects of at least second-year degree level, or a National Diploma in a specialist direction or equivalent, or a foreign qualification evaluated as being equivalent.

This Diploma is offered in conjunction with the Technikon Natal, Durban.

Further Diploma in Education (Technikon): One year of full-time study or two years of part-time study after a Senior Certificate or equivalent, and an approved three-year teacher's diploma or certificate in Home Economics, Commercial Subjects or Industrial Arts. Applicants must be selected serving teachers.

The curriculum includes one of the following: Home Economics, Commercial Subjects, Electronics, Industrial Arts. This Diploma is offered in conjunction with the Technikon Natal.

Further Diploma in Education (Edgewood): One year of full-time study or two years of part-time study after a Senior Certificate or equivalent with a pass in Mathematics HG or equivalent and an approved three-year education diploma or certificate or an approved degree and an approved education diploma. Applicants must be selected serving teachers. This Diploma is offered through the Edgewood College of Education in the field of Computer Studies or Mathematics.

Bachelor of Music (Music Education) - B.Mus.: See MUSIC.

(b) Secondary and primary teachers' course

Diploma in Specialised Education (School Librarianship): One year of full-time study or two years of part-time study after

- a degree and an approved education diploma and, in addition, three years approved teaching experience; or

- an approved three-year education diploma and three years' approved teaching experience; or

- alternative qualifications which are acceptable to the Senate.

(c) Primary teachers' course

Bachelor of Primary Education - B.Prim.Ed.: Four years of full-time study after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with passes in both official languages on the Higher Grade together with a minimum of 40 % in at least three subjects on the Higher Grade, one of which must be the first language.

(d) Other teachers' courses

Diploma in Specialised Education (Remedial Education): One year of full-time study or two years of part-time study after

- a degree plus an approved education diploma; or

- an approved education diploma requiring at least three years of training and, in addition, two years of approved teaching experience.

Diploma in Adult Education: One year of full-time study or two years of part-time study. A candidate must hold an approved degree or have been admitted to the status thereof; or have received the special permission of the Senate to register for the Diploma.

University Diploma in Nursing Education - U.D.N.E.: See NURSING.

UNIVERSITY OF THE NORTH

(a) Secondary teachers' courses

Bachelor of Arts in Pedagogy - B.A.Paed.

Bachelor of Commerce in Pedagogy - B.Com.Paed.

Four years after a Matriculation Certificate or a Matriculation Exemption Certificate.

Bachelor of Science in Pedagogy - B.Sc.Paed.: Four years after a Matriculation Certificate or a Matriculation Exemption Certificate. The admission requirements are the same as for the B.Sc. degree. See PURE NATURAL SCIENCES.

Bachelor of Agriculture in Pedagogy - B.Agric.Paed.: Four years after a Matriculation Certificate or a Matriculation Exemption Certificate.

Diploma in Agricultural Education - Dipl. Agric. Paed.: Three years after a Senior Certificate or an equivalent qualification.

Diploma in Pedagogy - Dipl. Paed.: Two years after a Senior Certificate or an equivalent qualification. The aim of the diploma is the training of teachers for secondary education, with particular emphasis on Standards 6 to 8.

Secondary Teachers' Diploma (Further training) - S.T.D. (Further training): One year of full-time study after one of the following: S.T.D. (two-year study programme); S.A.T.D.; Dipl. Paed., or any other recognised equivalent teacher's diploma or certificate. The aim of this course is to enable teachers with two years' training to improve their qualifications so that they may teach two school subjects up to matric level.

Secondary Teachers' Diploma (without degree subjects) - S.T.D. (without degree subjects): Three years after a Senior Certificate or equivalent.

Secondary Teachers' Diploma (with degree subjects) - S.T.D. (with degree subjects): Three years after a Matriculation Exemption Certificate.

University Education Diploma - U.E.D.: One year after an approved Bachelor's degree including courses in approved school subjects.

University Education Diploma (Non-graduate) - U.E.D. (Non-graduate): One year. A candidate may fall short of only two courses towards obtaining his degree and must hold the Matriculation Exemption Certificate.

Any holder of the U.E.D. (Non-graduate) may convert it to a full U.E.D. by completing the outstanding academic requirements for the degree.

Diploma in School Library Science - D.S.L.: One year after a Senior Certificate plus a recognised teacher's diploma.

(b) Other teachers' courses

B.Cur. (I. et A.) and

Diploma in Nursing Education: See NURSING.

UNIVERSITY OF THE ORANGE FREE STATE

(a) Secondary teachers' courses

Baccalaureus Agriculturae (Educationis) - B.Agric.(Ed.)
Baccalaureus Artium (Educationis) - B.A.(Ed)
Baccalaureus Artium (Educationis) with Dramatic Art and Theatrical Art - B.A.(Ed.) with Dramatic Art and Theatrical Art
Baccalaureus Artium (Educationis) with Fine Arts - B.A.(Ed.) with Fine Arts
Baccalaureus Artium (Educationis) with Languages - B.A.(Ed.) with Languages
Baccalaureus Artium (Educationis) with Music subjects - B.A.(Ed.) with Music subjects
Baccalaureus Artium (Educationis) with Physical Education - B.A.(Ed.) with Physical Education
Baccalaureus Bibliothecologiae (Educationis) - B.Bibl.(Ed.)
Baccalaureus Commercii (Educationis) - B.Com.(Ed.)
Baccalaureus Economiae (Educationis) - B.Econ.(Ed.)
Baccalaureus Musicae (Educationis) - B.Mus.(Ed.)
Baccalaureus Scientiae in Home Economics (Educationis) - B.Sc. Home Economics (Ed.)

Baccalaureus Scientiae (Educationis) - B.Sc.(Ed.)

Each of the curricula of all the aforementioned degrees, is a four-year integrated academic and professional degree course which fulfils all the requirements for the degree concerned as well as the requirements for the training of teachers for secondary schools. Admission requirements are the same as for the field of study concerned.

Baccalaureus Secundae Educationis - B.Sec.Ed.: Four years of full-time study after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Higher Diploma in Education - H.D.E.: Four years of full-time study after a Senior Certificate or equivalent, with passes in an official First Language HG and in an official Second Language HG, and in one other subject, excepting the official languages, on the Higher Grade. This Diploma is offered in the following fields: General; Science; Physical Education; Industrial Arts/Graphics (Education); Home Economics; Art Education; Commercial subjects; Dramatic Art and Theatrical Art.

For some of these fields there are additional admission requirements, mainly concerning school subjects passed.

Higher Diploma in Education (Postgraduate) - H.D.E. (Postgraduate): One year of full-time study or 18 months (3 semesters) of part-time study after a recognised degree which must also include approved subjects.

Highers Diploma in Education (Technical) - H.D.E. (Technical): One year of full-time study or 1½ years of part-time study after a Senior Certificate or equivalent qualification and a qualification(s) evaluated as M+3 = Category C which includes two school subjects (which may include technical subjects connected with the holder's specialist post) or at least at two-year degree level or an approved degree.

(b) Primary teachers' course

Baccalaureus Primariae Educationis - B.Prim.Ed.: Four years of full-time study after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

(c) Other teachers' courses

Diploma in Specialised Education in Remedial Education: One year of full-time study after

- an approved three or four-year diploma in education; or
- an approved degree and an approved diploma in education; or
- an approved integrated teaching degree.

Post-basic Diplomas in Nursing which includes, inter alia, Post-basic Diploma in Nursing Education: See NURSING.

Tertiary Education Diploma in Physiotherapy: See PHYSIOTHERAPY.

BLOEMFONTEIN TEACHERS' COLLEGE

The following courses are offered:

- A three-year Education Diploma for the junior primary school
- a three-year Education Diploma for the senior primary school
- a four-year Higher Diploma in Education for the senior primary school
- Specialisation Diplomas.

Admission requirements: A Senior Certificate with passes in an official First Language HG and in an official Second Language HG, and in one further subject, excepting the official languages, on the Higher Grade.

The following one-year diplomas are also offered:

- Higher Diploma in Education for the pre-primary school: One year after an approved three-year education diploma for the primary school.
- Higher Diploma in Education for the senior primary school: One year after an approved three-year education diploma for the senior primary school.
- Diploma in Specialised Education for mentally handicapped pupils: One year after an approved three or four-year education diploma.
- Diploma in Specialised Education in Remedial Education: One year after
  - an approved three or four-year education diploma; or
  - an approved degree and an approved education diploma; or
  - an approved combined/integrated teaching degree.

The Durban College of Education offers the four-year Higher Diploma in Education (Secondary) under the control of the University of the Orange Free State. For admission to the College applications should be addressed to the Rector, Durban College of Education, Private Bag, Congella 4013.

UNIVERSITY OF PORT ELIZABETH

(a) Secondary teachers' courses

Baccalaureus Artium (Educationis) - B.A.(Ed.)

Baccalaureus Commercii (Educationis) - B.Com.(Ed.)

Each of the curricula of the above-mentioned degrees is a four-year integrated academic and professional degree course which fulfils all the requirements for the degree concerned as well as the requirements for the training of teachers for secondary schools.

The admission qualifications for the above-mentioned degrees are the same as for the degree concerned. For B.A. see ARTS and for B.Com. see COMMERCE.

Baccalaureus Musicae (Educationis) - B.Mus.(Ed.): Four years of full-time study. See MUSIC.

Diploma in Musical Education: Three years of full-time study after a Senior Certificate. See B.Mus. for additional requirements.

Higher Diploma in Education (Postgraduate) - H.D.E. (Postgraduate): One year after an approved Bachelor's degree of a recognised university which includes the minimum number of approved school subjects.

Higher Diploma in Education - H.D.E.: Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) or a Senior Certificate if the candidate has passed in both official languages on the Higher Grade; and one further subject, apart from the official languages, on the Higher Grade. This Diploma may be obtained with the following endorsements: Human Sciences; Natural Sciences (in the field of Physical and Mathematical Sciences or in the field of Biological Sciences); Economic Sciences; Physical Education; Woodwork and Metalwork; School Music; Typing, Snelskrif and Shorthand.

Higher Diploma in Education (Technical) - H.D.E. (Technical): One year of full-time study after one of the following:

- An approved degree; or
- a Senior Certificate or equivalent qualification* and a qualification equivalent to Std 10 + 3 which includes two school subjects on a second-year degree level. (Technical subjects relating to the candidate's specialist post may be included.)

*A four-subject NTC III plus two official languages of which one must be passed on the Higher Grade and English Language (excluding English Literature) must be one; Abitur, etc. shall be regarded as equivalent.

(b) Primary teachers' courses

Baccalaureus Primae Educationis - B.Prim.Ed.: Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). There are two curricula, namely Junior Primary and Senior Primary.

Higher Diploma in Education - H.D.E.: Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) or a Senior Certificate with passes in both official languages on the Higher Grade; passes in two of the following subjects, at least one of which must be on the Higher Grade: Accountancy, Agricultural Science or Agriculture, Art, Biblical Studies, Biology or Physiology, Commercial Mathematics or Mathematics, Economics, Functional Mathematics, Functional Science, Geography, History, Home Economics, Literature, Metalwork and/or Woodwork, Music, Needlework, Physical Science, Technical Drawing, Xhosa; and passes in two other subjects in the final examination.

There are two curricula, namely Junior Primary and Senior Primary.

If at the end of the third year of the curriculum, a candidate does not wish to continue with the prescribed courses of the fourth year, he/she nevertheless qualifies for the three-year Diploma in Education (D.E.).

(c) Other teachers' courses

Diploma in Specialised Education (Mentally Handicapped Pupils) - D.S.E.: Two years of part-time study or one year of full-time study. A candidate should have had at least one year's teaching experience and be in possession of one of the following:

- an approved degree and an approved teacher's diploma
- an approved three-year or four-year education diploma
- an approved integrated teaching degree.

Diploma in Specialised Education (Remedial Education) - D.S.E.(R.E.): Two years of part-time study or one year of full-time study. A candidate must have had at least three years' teaching experience, preferably in a primary school and be in possession of one of the following:

- an approved three or four-year diploma in education
- an approved degree and an approved diploma in education
- an approved integrated degree in education
- any three of four-year teacher's diploma which the Senate recognises for the purpose.

Baccalaureus Curationis (Institutionis et Administrationis) - B.Cur. (I. et A.) and
Diploma in Nursing Education and Community Health Nursing - Dip. N.E.: See NURSING.

POTCHEFSTROOM UNIVERSITY FOR CHRISTIAN HIGHER EDUCATION

(a) Secondary teachers' courses

Baccalaureus Artium (Educationis) - B.A.(Ed.)

Baccalaureus Artium (Educationis) Art - B.A.(Ed.)Art

Baccalaureus Bibliothecologiae (Educationis) - B.Bibl.(Ed.)

Baccalaureus Commercii (Educationis) - B.Comm.(Ed.)

Baccalaureus Scientiae (Educationis) - B.Sc.(Ed.)

Each of the curricula of the above-mentioned degrees is a four-year integrated academic and professional curriculum which fulfils all the requirements for the degree concerned as well as the requirements laid down by the Committee of Heads of Education for the training of teachers for secondary schools.

The admission requirements are the same as for the degree concerned.

Baccalaureus Scientiae (Domestic Science) (Educationis) - B.Sc. (Dom.Sc.) (Ed.): Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics on the Higher Grade, or alternatively, a pass in Mathematics and a science subject, preferably Physical Science, on the Standard Grade. Prospective students are strongly recommended to take Physical Science for the Std 10 examinations. See also HOME ECONOMICS/DOMESTIC SCIENCE.

Higher Diploma in Education (postgraduate) - H.D.E. (postgraduate): One year after an approved degree of a recognised university which includes the minimum number of prescribed school subjects.

Higher Diploma in Education (postgraduate) (Guidance) - H.D.E. (postgraduate) (Guidance): One year after an approved degree with Psychology as a three-year major subject.

Higher Diploma in Education (postgraduate) (School Media Centre Science): One year after an approved degree with at least 44 credits in Library Science and Information Science which were obtained as part of the degree study.

Higher Diploma in Education (Secondary) - H.D.E.(Sec.): Four years after a Senior Certificate with passes in both official languages with at least a pass in the first language on the Higher Grade; and a pass in one further subject, excepting the official languages, on the Higher Grade. This Diploma is offered in the following specialised fields: Human Sciences, Pure Sciences, Economic Sciences, Domestic Science, Industrial Arts, School Media Centre Science. For some of these fields there are additional admission requirements, mainly concerning school subjects passed.

This course is also offered on the Vaal Triangle Campus.

Potchefstroom University Teacher's Licentiate in Music: Three years after a Matriculation Certificate or a Senior Certificate.

A student must satisfy the Head of the Department of Music in a practical and theoretical test that his standard is high enough to attend the course with profit. He must have passed Music as a subject for the Std 10 examination or have obtained the advanced standard of the University of South Africa in the chosen practical subject.

(b) Primary teachers' course

Baccalaureus Primariae Educationis - B.Prim.Ed.: Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). Additional requirements are the same as for the B.A. or B.Sc. degree according to the choice of subjects.

This degree is an integrated teaching degree which is designed for teaching in the primary school.

(c) Other teachers' courses

Diploma in Nursing Education (graduate): One year after a degree in Nursing.

Diploma in Nursing Education: See NURSING.

Higher Diploma in Education (postgraduate)(Orthodidactics): One year after an approved degree of a recognised university which includes the minimum number of prescribed school subjects.

(d) Tertiary teachers' course

Diploma in Tertiary Education: 18 months of extramural study after an approved Bachelor's degree. A student must be attached to a recognised tertiary educational institution or have had at least one academic year's experience as a lecturer at such an institution.

UNIVERSITY OF PRETORIA

(a) Secondary teachers' courses

Bachelor of Arts (Education) - B.A.(Ed.)

Bachelor of Arts (Education)(Art) - B.A.(Ed.)(Art)

Bachelor of Commerce (Education) - B.Com.(Ed.)

Bachelor of Science (Education) - B.Sc.(Ed.)

Each of the curricula of the above-mentioned degrees is a four-year integrated academic and professional degree course which fulfils all the requirements for the degree concerned as well as the requirements for the training of teachers for the secondary school. The admission requirements for all three of the above-mentioned degrees are the same as for the degree concerned.

Bachelor of Domestic Science (Education) - B.Dom.Sc.(Ed.): Four years of full-time study after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with at least 40 % in Mathematics HG and in Physical Science HG or at least 50 % SG in these subjects.

Higher Diploma in Education (Postgraduate) - H.D.E. (Postgraduate): One year of full-time study after a Bachelor's degree which either includes the minimum number of courses in approved school subjects or is recognised for teaching purposes irrespective of the subject combination.

Higher Diploma in Education (Postgraduate)(Extramural): An extramural course extending over three semesters. Only candidates who are employed in a permanent capacity and who have fulfilled the admission requirements for the aforementioned one-year full-time postgraduate course will be admitted to the extramural course.

Higher Diploma in Education - H.D.E.: Four years of full-time study after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) or a Senior Certificate with Afrikaans and English as subjects passed: provided that one of the official languages must be passed on the Higher Grade and one further subject, excepting the official languages, must be passed on the Higher Grade. This Diploma is offered with the following endorsements: General, Commercial subjects, Commercial subjects Secretarial, Home Economics, Music, Physical Education. With the exception of two cases, there are additional admission requirements for each endorsement (specialised field) mainly concerning subjects passed in the Std 10 examinations.

Diploma in Music (Individual Teaching): See MUSIC.

(b) Primary teachers' courses

Bachelor of Primary Education (Junior Primary) - B.Prim.Ed. (Junior Primary) and
Bachelor of Primary Education (Senior Primary) - B.Prim.Ed. (Senior Primary)

Each of the curricula of the above-mentioned two degrees is a four-year full-time integrated academic and professional degree course which fulfils all the requirements for the B.A. degree as well as the requirements for the training of teachers for primary schools. The admission requirements are the same as for the ordinary B.A. degree.

(c) Pre-Primary teachers' course

Bachelor of Primary Education (Pre-Primary) - B.Prim.Ed. (Pre-Primary): The curriculum is a four-year integrated academic and professional degree course which fulfils all the requirements for the B.A. degree as well as the requirements for the training of pre-primary teachers. The admission requirements are the same as for the ordinary B.A. degree.

(d) Other teachers' courses

Diploma in Orthopedagogics: One extended academic year after:

- A Bachelor's degree with Psychology or Sociology or Social Work or Occupational Therapy as a major subject; or
- the B.A.(Log.) degree of the University of Pretoria; or
- a recognised diploma in Occupational Therapy; or
- other qualifications which the Faculty Council may regard as adequate for admission.

Note: This Diploma is not recognised for education purposes.

Diploma in Nursing Education and
Bachelor of Nursing (Instruction and Administration) - B.Cur. (I. et A.): See NURSING.

(e) Tertiary teachers' course

Diploma in Tertiary Education: Two semesters of part-time study after

- a Bachelor's degree; or
- a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) plus another qualification which together with the appropriate experience justifies, in the discretion of the Senate, admission to the course.

RAND AFRIKAANS UNIVERSITY

(a) Secondary teachers' courses

B.A. (Education) - B.A.(Ed.)

B.Bibl. (Education)

B.Com. (Education)

B.Sc. (Education)

Each of the curricula of the above-mentioned four degrees is a four-year integrated academic and professional degree curriculum which fulfils all the requirements for the degree concerned as well as the requirements laid down by the Committee of Heads of Education for the training of teachers for secondary schools.

The admission requirements are the same as for the ordinary degree concerned.

Postgraduate Higher Diploma in Education - H.D.E. (Postgraduate): Two semesters of full-time study after an approved Bachelor's degree which includes the minimum number of subjects for teaching purposes as stipulated by the Committee of Heads of Education.

Postgraduate Higher Diploma in Education (Technical): As for the H.D.E. (Postgraduate) provided that one of the subject didactics must be in a technical field.

Four-year Higher Diploma in Education - H.D.E.: Four years of full-time study after a Matriculation Certificate or a Senior Certificate with Afrikaans and English as subjects passed. Besides the first language which must be passed on the Higher Grade, one further subject, excepting the official languages, must also be passed on the Higher Grade. This Diploma may be obtained in the following fields: Languages and Human Sciences, Commercial field (academic subjects), Commercial field (subjects requiring dexterity), Librarianship.

For each of these fields there are additional admission requirements, mainly concerning pass marks in particular subjects in the Standard 10 examinations.

One-year Higher Diploma in Education (Technical) - H.D.E. (Technical): One year after a Senior Certificate or equivalent qualification (e.g. a four-subject NTC III plus the two official languages of which at least one must be passed on the Higher Grade) *and* a three-year diploma which includes at least two school subjects (technical subjects) on second-year level, e.g. motor mechanics, electricity, radio mechanics, woodworking, plumbing, and welding and metalwork.

(b) Primary and Pre-primary teachers' courses

B.Prim.Ed. (Senior Primary): Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). A good pass in Afrikaans and English; and Mathematics as a school subject will be a strong recommendation.

B.Prim.Ed.(Pre-primary and Junior Primary): As for the above-mentioned degree.

Each of the curricula of these two degrees is a four-year integrated academic and professional degree curriculum. The courses are offered in co-operation with the Teachers' College Goudstad.

(c) Other teachers' courses

Bachelor of Nursing Instruction and Administration - B.Cur.(Ed. et Adm.) and
Diploma in Nursing Tuition: See NURSING.

RHODES UNIVERSITY

(a) Secondary teachers' courses

Higher Diploma in Education (Postgraduate): One year after an approved degree with certain specified courses included in the curriculum for that degree.

Higher Diploma in Education - H.D.E.: Four years after a Senior Certificate with a pass in an official language (first language HG) and in the other official language (second language HG); passes in at least four further approved subjects, one of which, other than the second official language, must be on the Higher Grade; and at least an E symbol in each of the aforementioned subjects. The curriculum for the Diploma shall be arranged in accordance with certain provisions with regard to the courses to be followed.

Rhodes University Licentiate Diploma in Music - R.U.L.M.: See MUSIC.

(b) Primary teachers' courses

Diploma in Education: Three years after a Senior Certificate. There are two curricula, namely for Senior Primary Teachers and Junior Primary Teachers.

Higher Diploma in Education (Senior Primary and Junior Primary): One year of full-time study after the Diploma in Education. There are three curricula, namely for Academic Specialisation, Physical Education Specialisation and Music Specialisation.

Higher Diploma in Education (Postgraduate) (For senior primary teachers): One year after a Bachelor's or higher degree which includes certain prescribed school subjects.

Bachelor of Primary Education - B.Prim.Ed.: Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

(c) Other courses

The University offers the following courses to students who do not fulfil the admission requirements of the Higher Diplomas in Education and Diplomas in Education because they have passed only one of the official languages at the senior certificate level. These courses are therefore not recognised as approved teaching qualifications in the Republic of South Africa:

University Education Diploma (Postgraduate)(Secondary): The curriculum is the same as that of the Higher Diploma in Education (Postgraduate) (Secondary).

University Education Diploma (Secondary): The curriculum is the same as that of the Higher Diploma in Education (Secondary).

University Education Diploma (Postgraduate)(Senior primary): The curriculum is the same as that of the Higher Diploma in Education (Postgraduate) (Senior Primary) except that Afrikaans may be replaced by another course or by English II.

Higher Primary Teacher's Certificate: The curriculum is the same as that of the Diploma in Education (Senior Primary) except that Afrikaans may be replaced by a first-year subject applicable to primary school teaching.

Lower Primary Teacher's Certificate: The curriculum is the same as that of the Diploma in Education (Junior Primary) except that Afrikaans language may be replaced by a first-year subject applicable to primary school teaching.

UNIVERSITY OF SOUTH AFRICA

(a) Secondary teachers' courses

Higher Diploma in Education (Postgraduate) - H.D.E. (Postgraduate): At least two years after a Matriculation Certificate or equivalent with passes in both official languages, at least one of which as First Language Higher Grade; and a further subject on the Higher Grade (excluding the official languages); and an approved degree which includes the required number of courses in the approved school subjects. Except with the special approval of the Senate, the completion of the Diploma is subject to the submission of original evidence of at least ten weeks' satisfactory experience as a teacher in a secondary school.

Further Diploma in Education - F.D.E.

Note: This Diploma may be taken only by teachers employed and selected by the Transvaal Education Department.

The curriculum extends over at least two years after an approved teaching qualification.

Higher Diploma in Education (Technical) - H.D.E. (Technical): A student shall

- hold a Senior Certificate or an equivalent qualification;
- have passed the two official languages at Std 10 level and at least one on the Higher Grade. (Immigrants will have to comply with this requirement during their training for the diploma.)
- hold a qualification(s) evaluated by the Committee of Heads of Education as M + 3 (Category C) and which include two recognised school subjects.

Except with the special approval of the Senate, the completion of the Diploma is subject to the submission of original evidence of at least ten weeks' satisfactory experience as a teacher in a secondary school.

The curriculum extends over at least two years.

Higher Diploma in Education (Secondary) - H.D.E. (Secondary): At least four years after a Senior Certificate with passes in Afrikaans and in English with at least 40 % in the First Language HG, and at least 40 % in one further subject on the Higher Grade (not including Afrikaans and English).

Registration for the H.D.E. (Secondary) is limited to students who are registered at the Academy for Tertiary Education in Windhoek.

(b) Primary teachers' courses

Bachelor of Primary Education - B.Prim.Ed.: At least four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Registration for this degree is limited to students who are registered at the Pretoria College of Education or the Academy for Tertiary Education in Windhoek.

Diploma in Education (Primary): At least three years after a Senior Certificate with passes in Afrikaans and English with at least 40 % in the First Language HG, and at least 40 % in a further subject (not including Afrikaans and English) on the Higher Grade.

Registration is limited to registered students of the Academy for Tertiary Education in Windhoek, Helderberg College in Somerset West, and Rabbi J.L. Zlotnik-Avida Hebrew Teachers' Training College in Johannesburg.

Higher Diploma in Education (Primary) - H.D.E. (Primary): At least one year after a recognised three-year diploma in primary education for which a Senior Certificate was a prerequisite for admission.

(c) Secondary and/or primary teachers' course

Diploma in Special Education: School Library Science: At least one academic year after

- an approved three-year or four-year teacher's diploma; or
- an approved degree and an approved teacher's diploma; or
- an approved combined education degree, but not B.Bibl.(Ed.).

(d) Pre-primary teachers' courses

Higher Diploma in Education (Pre-primary) - H.D.E. (Pre-primary) and Higher Diploma in Education (Postgraduate Pre-primary) - H.D.E. (Postgraduate Pre-primary): At least two years after

- a recognised teacher's diploma issued after a three-year teacher's training course; or
- a degree which includes the required number of courses in the approved school subjects, and at least one course in each of the official languages and at least one course in Education or at least one course in each of two of the following: Sociology, Psychology, Logopedics, Social Work.

Diploma in Nursery Education - D.N.E.

(Note: This Diploma does not comply with the criteria for the evaluation of South African qualifications for purposes of employment in Provincial Education Departments.)

The curriculum extends over at least two years after

- a recognised two-year teacher's diploma for admission to which a Senior Certificate was required; or
- a degree with three courses in one and at least one course in another of the following subjects: Psychology, Sociology, Social Work, Education, Philosophy; or
- a degree, or a diploma for which a Senior Certificate was a prerequisite, in Nursing, Speech Therapy, Physiotherapy, Occupational Therapy or Social Work; or another acceptable qualification.

(e) Tertiary teachers' course

Diploma in Tertiary Education - D.T.E.: At least one year after a Bachelor's degree. The Diploma will not, however, be issued until a student has completed at least two years' appropriate experience in an institution providing training at tertiary level.

Note: The D.T.E. is not a general education diploma. It comprises advanced study in tertiary education and may grant admission to M.Ed. study in Andragogics.

(f) Other teachers' courses

Diploma in Specialised Education - D.S.E.

A. Special Education

Special education for the aurally handicapped, or visually handicapped, or neurally handicapped, or mentally severely handicapped.

Note: A student must select one of these fields.

The curriculum extends over at least two years after

- an approved education diploma issued after a three-year teacher's training course; or
- an approved degree and an approved education diploma; or
- an approved four-year education diploma; or
- an approved combined education degree.

B. Remedial Education

The curriculum extends over at least two years after

- an approved education diploma issued after a three-year teacher's training course; or
- an approved degree and an approved education diploma; or
- an approved four-year education diploma; or
- an approved combined education degree,

and

- at least three years' teaching experience.

Certificate in Special Education - C.S.E.

(Note: Prospective candidates should enquire from the various education departments whether the C.S.E. will be recognised for salary purposes.)

Special education for the aurally handicapped, or visually handicapped, or neurally handicapped, or the mentally severely handicapped.

The curriculum extends over at least two years after a recognised teacher's diploma issued after a two-year teacher's training course for admission to which a Senior Certificate was required.

Higher Education Diploma (Technical) (Endorsement Radiography, Occupational Therapy, Physiotherapy, etc.) - H.E.D. (Technical) (SHS): At least two years of study. A student must be a member of the supplementary health service personnel, hold an appropriate degree or diploma and be registered with the South African Medical and Dental Council.

Diploma in Orthopedagogics for Therapists - D.O.T.: At least two years after an appropriate degree or an appropriate three-year diploma in Physiotherapy, or Occupational Therapy, or Speech Therapy by virtue of which the South African Medical and Dental Council has approved registration with the Council as a physiotherapist, or an occupational therapist, or a speech therapist.

Bachelor of Arts in Nursing Science - B.A.(Cur.): See NURSING.

UNIVERSITY OF STELLENBOSCH

(a) Secondary teachers' courses

Bachelor of Agricultural Education - B.Agric.(Ed.): See AGRICULTURE.

Bachelor of Arts in Fine Arts (Educationis) - B.A. in Fine Arts (Ed.): Four years of full-time study. See also FINE ARTS.

Bachelor of Home Economics (Educationis) - B. Home Economics (Ed.): Four years of full-time study after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics SG or in Physical Science SG.

Bachelor of Science in Home Economics (Educationis) - B.Sc. Home Economics (Ed.): Four years of full-time study. Additional admission requirements are the same as for the B.Sc. degree. See also HOME ECONOMICS/DOMESTIC SCIENCE.

Bachelor of Librarianship (Educationis) - B.Bibl.(Ed.): Four years of full-time study. See LIBRARIANSHIP.

Bachelor of Music (Educationis) - B.Mus.(Ed.): See MUSIC.

Teacher's Licentiate in Music: Three years after a Senior Certificate with an average of 50 %; and a pass of at least 50 % in Music HG or 60 % in Music SG; or

- a pass in the Grade VII Examination (University of South Africa) in the practical major subject, with a standard in Harmony equivalent to Grade VI (University of South Africa), or
- a pass mark in the entrance examination, equivalent to the above-mentioned examinations in the practical major subject and in Harmony.

Higher Diploma in Education (Secondary)(Postgraduate) - H.D.E.: One year after a Bachelor's degree of a recognised university which includes the minimum number of prescribed school subjects.

Higher Diploma of Education (Secondary)(Agriculture): Four years of full-time study after a Matriculation Certificate or a Senior Certificate with a pass in a science subject on the Standard Grade at least; passes in both official languages on the Higher Grade; a pass in one other subject, with the exception of the official languages, on the Higher Grade; and an aggregate of at least 900 marks in the final examination.

The course is offered in co-operation with the Teachers' College Oudtshoorn. All four years of study are followed at the College.

Particulars of the course are obtainable from the Rector, Teachers' College, Private Bag X649, Oudtshoorn 6620.

Higher Diploma in Education (Secondary)(Commerce)(C.T.): Four years of full-time study after a Matriculation Certificate or a Senior Certificate with passes in both official languages on the Higher Grade; a pass in one other subject, with the exception of the official languages, on the Higher Grade; and an aggregate of at least 900 marks in the final examination.

The course is offered in co-operation with the Cape Technikon. Students attend the Technikon in Cape Town for the first three years and in the fourth year they follow the the course in the Faculty of Education at the University.

Particulars of the syllabi for the first three years of study are obtainable from the Head, Department of Teacher Training, Cape Technikon, P.O. Box 652, Cape Town 8000.

Higher Diploma in Education (Secondary)(Woodwork-Metalwork): Four years of full-time study after a Matriculation Certificate or a Senior Certificate with a pass in a science subject or Mathematics on the Standard Grade at least; passes in both official language on the Higher Grade; a pass in one other subject, with the exception of the official languages, on the Higher Grade; and an aggregate of at least 900 marks in the final examination.

The course is offered in co-operation with the Teachers' College Paarl. All four years of study are followed at the College.

Particulars of the course are obtainable from the Rector, Teachers' College, Hoof Street, Paarl 7646.

Further Diploma in Education (Commerce): One year of full-time study or two years of part-time study after the three-year National Teacher's Diploma (Commerce) or an equivalent qualification.

This course is offered in co-operation with the Cape Technikon.

(b) Primary teachers' courses

Bachelor of Primary Education - B.Prim.Ed.: Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics SG and a satisfactory standard in both the official languages in the final examination in Std 9 and in the June examination in Std 10.

Students who take the following fields of specialisation are exempted from the Mathematics requirement: Physical Education, School Art and School Music.

The degree is offered with the following fields of specialisation:

A: Afrikaans and English or one of the official languages and Mathematics
B: Physical Education (See PHYSICAL EDUCATION)
C: School Music
D: Educational Psychology
E: School Art.

A candidate who wishes to be admitted to the B.Prim.Ed. degree course with specialisation in School Music must have

- obtained at least 50 % in Music (HG or SG); or
- passed the Grade VI examination (UNISA) in piano; or
- passed an entrance examination equivalent to the above-mentioned examination.

Higher Diploma in Education (Primary) (Speech and Drama) - H.D.E.(Prim.) (Speech and Drama): One year after an approved Primary Teachers' Diploma. Persons who have already studied Speech Training as an intensive specialised field for the Primary Teacher's Diploma are not admitted.

Higher Diploma in Education (Primary) (School Music) - H.D.E.(Prim.) (School Music): One year after

- an approved three-year Primary Teachers' Diploma (Senior Primary); or
- a B.Mus.(Ed.) degree; or
- a Bachelor's degree and a recognised education diploma.

Persons who have already studied School Music as an intensive specialised field are not admitted.

Students must pass an entrance examination in either Piano, Singing or Recorder in which the standard of Grade VII of UNISA is required. Candidates who obtained a pass during the preceding two years in the Grade VII or higher examination in the practical music study concerned of UNISA or other comparable bodies are exempted from this admission requirement. Students must also pass a voice test.

Diploma in Specialised Education (School Librarianship): One year after

- an approved three-year or four-year education diploma; or
- an approved degree followed by an approved education diploma; or
- an approved integrated teaching degree.

Students who have already specialised in School Librarianship are not admitted.

(c) Other teachers' courses

Diploma in Specialised Education (Mentally Handicapped): One year after:

- The Higher Primary Teachers' Diploma of this University or another three-year teachers' diploma or certificate which can be regarded as equivalent thereto; or

- a degree and the Higher Diploma in Education (H.D.E.) of this University or equivalent qualifications.

Diploma in Specialised Education in Special Education (Aurally Handicapped)

Diploma in Specialised Education in Special Education (Autism)

Diploma in Specialised Education in Remedial Education

To be admitted to one of the three above-mentioned diploma courses which each extend over one year of full-time study, a candidate must hold either an approved three-year education diploma; or a teaching degree (e.g. B.Prim.Ed.); or an approved degree and a one-year education diploma (e.g. B.A. plus H.D.E.). Preference will be given to candidates with teaching experience.

Teachers' Diploma in Occupational Therapy: See OCCUPATIONAL THERAPY.

Diploma in Nursing Education: See NURSING.

VISTA UNIVERSITY

Secondary teachers' courses

Secondary Education Certificate - S.E.C.: At least two years and not more than four years' study. A candidate must be in possession of the following:

- A two-year teachers' certificate; and

- at least a Senior Certificate with passes in the First language on the Higher Grade, and in Afrikaans and in English as second languages, one of which must be passed on the Higher Grade.

Preference is given to candidates with a pass at senior certificate level in the two subjects in which they wish to specialise.

Secondary Education Diploma (Home Economics) - S.E.D. (Home Economics): At least three years and not more than five years after the following:

- At least a Senior Certificate; and

- the Homecraft Teachers' Certificate; or a Junior Secondary Teachers' Certificate.

Applicants should preferably teach in Stds 9 and 10.

Note: the S.E.C. and the S.E.D. (Home Economics) are offered by means of correspondence tuition by Vista University's Campus for Further Training.

The following diploma is offered on a full-time basis at the various campuses of Vista University:

Secondary Education Diploma - S.E.D.: At least three years and not more than five years after a Senior Certificate or equivalent.

UNIVERSITY OF THE WESTERN CAPE

(a) Secondary teachers' courses

Baccalaureus Economicae (Educationis) - B.Econ.(Ed.): Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics HG or SG.

Baccalaureus Scientiae (Educationis) - B.Sc.(Ed.): Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with passes of at least 40 % in Mathematics HG and in Physical Science HG or Biology HG, or at least 50 % SG in the aforementioned subjects.

Baccalaureus Artium in Human Ecology (Education course) - B.A.(H.E.): Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with passes of at least 40 % HG or 50 % SG in one of the following subjects: Biology, Physical Science or Mathematics.

Higher Diploma in Education (Postgraduate) - H.D.E. (Postgraduate): One year after a recognised degree with certain specified courses in school subjects.

Secondary Teacher's Diploma (Non-graduate) - S.T.D. (N/G): A student who has completed a full two-year course of study for the Bachelor's degree in such a way that all the requirements for a degree will be satisfied by one further year of study, shall be admitted to the final year of professional training for the S.T.D. (N/G).

Any person in possession of the S.T.D. (N/G) can have it changed into a full H.D.E. (Postgraduate) immediately om completion of the academic requirements of the Bachelor's degree.

Higher Diploma in Education (Non-Graduate) - H.D.E. (Non-Graduate): Four years of full-time study after a Senior Certificate with at least 40 % in one of the official languages as First Language HG or 50 % in the First Language SG; at least 33 1/3 % in the other official language as Second Language HG; and a pass in at least one additional subject (excluding the official languages) on the Higher Grade.

The Diploma is offered with the following options: B.Sc. subjects; B.A. subjects; Human Ecology subjects; Physical Education.

A student who wishes to include Mathematics IA in his/her curriculum must have obtained at least 40 % in Mathematics HG or 50 % in

Mathematics SG. At least 40 % in Mathematics SG is required for all other science courses.

A student who wishes to enrol for the option with Human Ecology subjects, must have obtained at least 40 % in Biology SG as well as a pass in either Home Economics or Clothing and Needlework for the Senior Certificate.

A student who wishes to enrol for the Physical Education option must submit a medical certificate and must not be older than 30 years.

(b) Primary and/or Secondary teachers' courses

Diploma in School Librarianship: One year of full-time study or two years of part-time study. The following may be admitted:

- Qualified teachers who have had at least two years' undergraduate or one year's postgraduate teacher training
- Candidates who need one course to complete the S.T.D. or the L.S.T.D.

No persons who have already received comprehensive training in Librarianship will be admitted.

Diploma in Music Teaching - D.M.T.: Three years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) and a Grade VI Certificate (practical and theoretical) of UNISA or any other equivalent qualification.

(c) Other teachers' courses

Specialisation Diploma: Mentally Handicapped - S.D.M.H.: One year of full-time study or two years of part-time study after a two-year teacher's qualification obtained subsequent to the Senior Certificate; and preferably teaching experience. A student must be recommended by the relevant education authority as a suitable candidate.

Specialisation Diploma in Child and Youth Guidance - S.D.C.Y.: One year of full-time study after one of the following:

- an approved three or four-year diploma in education obtained subsequent to the Senior Certificate; or
- an approved degree and an approved diploma in education; or
- an approved integrated degree in education; or
- any degree or diploma and experience regarded by the Senate as suitable.

Note: The number of students is restricted and selection takes place.

Specialisation Diploma in Remedial Teaching - S.D.R.T.: As for the S.D.C.Y.

Diploma in Nursing Education and Community Nursing Science - D.N.E. and C.N.S.: See NURSING.

UNIVERSITY OF THE WITWATERSRAND

(a) Secondary teachers' courses

Bachelor of Arts in Education - B.A. (Education)

Bachelor of Science in Education - B.Sc. (Education)

Each of the curricula of the above-mentioned degrees is a four-year integrated academic and professional degree curriculum which fulfils all the requirements for the degree concerned as well as the requirements laid down by the Committee of Heads of Education for the training of teachers. The admission requirements are the same as for the ordinary degree concerned.

Bachelor of Arts in Fine Arts (Education) - B.A. (Fine Arts)(Education): Four years of full-time study. See FINE ARTS.

Bachelor of Music (Education) - B.Mus. (Education): See MUSIC.

Higher Diploma in Education (Postgraduate) - H.Dip.Ed.(P.G.): One year of full-time study or two years of part-time study after an approved degree which includes a suitable combination of school teaching subjects.

University Education Diploma (Postgraduate) - U.E.D.(P.G.): A person who has not passed in Afrikaans at the matriculation standard laid down by the entry requirements for the H.Dip.Ed.(P.G.), but who in all other respects has satisfied the requirements may be admitted as a candidate for the U.E.D.(P.G.). The rules applicable to the H.Dip.Ed.(P.G.) are applicable to the U.E.D.(P.G.).

Higher Diploma in Education - H.Dip.Ed.: Four years of full-time study after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). The Senate may, until further notice, grant admission to a person who is not so qualified but who holds an approved Senior Certificate.

Every curriculum shall include, either

(i) four courses in one of the following practical subjects, one course in each year of the curriculum: Home Economics, Industrial Arts, Physical Education, Typewriting, Practical Music Study, Practical Music Study (Education); or

(ii) four courses in each of the following academic subjects: Accounting (Education), Business Economics (Education); or

(iii) certain prescribed courses in the following subjects: Biology, Chemistry, Mathematics, Physics.

Candidates who select four courses in Practical Music Study, must have passed Practical Instrument Grade V and Theory Grade V of UNISA or the Royal Schools of Music.

Candidates who select Curriculum (iii) must have passed both Mathematics and Physical Science with at least a D symbol on either the Standard or Higher Grade.

University Education Diploma - U.E.D. A person who has not passed in Afrikaans at the matriculation standard, but who in all other respects has satisfied the requirements for admission to the H.Dip.Ed. may be admitted as a candidate for the U.E.D. The rules applicable to the H.Dip.Ed. are applicable to the U.E.D.

A person to whom either the U.E.D.(P.G.) or U.E.D. has been awarded and who subsequently passes in Afrikaans at the matriculation standard shall be entitled to be granted either the H.D.E.(P.G.) or the H.D.E. respectively.

(b) Primary teachers' course

Bachelor of Primary Education - B.Primary Ed.: Four years of full-time study after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption), with a pass on the Higher Grade in three of the following subjects: Afrikaans First Language, Art, Bantu Language, Biology, Biblical Studies, English First Language, French, Geography, German, Hebrew, History, Latin, Mathematics, Music, Physical Science.

(c) Secondary and/or primary teachers' course

Licentiate in Music - L.M.: See MUSIC.

(d) Other teachers' courses

Diploma in Remedial Education - Dip. Rem. Ed.: Two years of part-time study after a degree and at least three years' experience in teaching.

Diploma in Specialised Education - Dip. Spec. Ed.: Two years of part-time study after

- a degree and a recognised teacher's diploma and at least two years' experience in teaching; or
- a recognised teacher's diploma and a Senior Certificate (Matriculation Exemption) and at least two years' experience in teaching.

Diploma in Nursing Education - D.N.Ed.: See NURSING.

Diploma in Physiotherapy Education - D.P.E.: See PHYSIOTHERAPY.

Higher Diploma for Educators of Adults - H.Dip.Ed.Ad.: One year of full-time study or two years of part-time study after a Bachelor's degree, or a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) and a professional qualification and at least three years' relevant experience in the field of adult education.

UNIVERSITY OF ZULULAND

(a) Secondary teachers' courses

Baccalaureus Paedanomiae - B.Paed.: Four years after a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). A student shall satisfy the requirements of one of the following three options: Arts, Commerce, Science or Home Economics.

Senior Secondary Teacher's Diploma - S.S.T.D.: After having satisfied all the requirements for the first, second and third years in any one option of the B.Paed. degree a student shall obtain the S.S.T.D.

Secondary Teacher's Diploma - S.T.D.: One year after a student has satisfied the requirements for any one option in the first year B.Paed.

University Education Diploma - U.E.D.: One year after a Bachelor's degree which includes the prescribed number of courses in school subjects.

University Education Diploma (Non-graduate) - U.E.D. (Non-graduate): One year. A student who has completed two full years of study towards a Bachelor's degree in such a manner that all the requirements for the degree may be fulfilled by one further year of study, may be admitted.

Any holder of the U.E.D. (Non-graduate) may have it converted into a full U.E.D. by completing the Bachelor's degree concerned.

(b) Other teachers' courses

Bachelor of Nursing Education and Administration - B.Cur.(E. et A.) and

Diploma in Nursing Education - D.N.E.: See NURSING.

POSTGRADUATE DEGREES

Bachelor of Education: B.Ed. (UCT, UFH, UN, UNORTH, UP, RAU, RU, UNISA, US, UW)
Baccalaureus Educationis: B.Ed. (UDW, UOFS, UPE, PU for CHE, UWC, UZ)

Admission requirements: A Bachelor's degree, a teacher's diploma and at least two years' teaching experience. Some universities require more teaching experience, others none at all.

Duration: One year of full-time study or two years of part-time study.

Bachelor of Educationis (School Guidance and Counselling) (UDW)
Baccalaureus Educationis in Tertiary Education: B.Ed. (Tertiary Education) (UPE)

Honours Bachelor of Paedagogics (Home Economics) (UDW)

Master of Education: M.Ed. (UCT, UFH, UN, UNORTH, UP, RAU, RU, UNISA, US, UW)
Magister Educationis: M.Ed. (UDW, UOFS, UPE, PU for CHE, UWC, UZ)
Master of Philosophy: M.Phil. (UCT)
Magister Philosophiae: M.Phil. (RAU)

Doctor of Philosophy: Ph.D. (UCT, UN, RU, US, UW)
Doctor of Literature: D.Litt. (UN, RU)
Doctor Philosophiae: D.Phil. (RAU)
Doctor of Education: D.Ed. (UCT, UFH, UNORTH, UP, RAU, UNISA, US, UW)
Doctor Educationis: D.Ed. (UDW, UOFS, UPE, PU for CHE, UWC, UZ)

VOCATIONAL SERVICE: Teachers usually start off as assistants. Those who are competent and conscientious, who have initiative and the capacity for organisation and leadership can, in the course of time, progress to positions such as those of head of department, deputy principal and principal. Other professional posts in the various education departments, such as those of subject inspectors, inspectors, planners, researchers, personnel attached to the psychological and guidance services and so forth, are also filled from the ranks of the teachers' corps.

The conscientious and successful teacher always remains a student who immerses himself in his work, keeps abreast of changes and reforms, particularly in his own subject, and always tries to let the child share in his own wealth of knowledge and wisdom. For this reason, further study is strongly emphasised. Not only is the deepening of subject knowledge desirable, but also the attainment of advanced educational qualifications such as the B.Ed. degree and other degrees and diplomas.

In this era of frenetic scientific and technical development, both formal and formative education are undergoing a reformation, growth and change as regards learning content, methods, procedures and approach. The profession offers bright and dynamic young people manifold and exciting challenges.

Also consult Tertiary Training for the training of teachers outside universities.

ENGINEERING

Universities: UCT, UDW, UN, PU for CHE, UP, RAU, US, UW

Some of the other universities offer training in Engineering up to second-year level.

FIRST DEGREES

Bachelor of Science in Engineering: B.Sc.(Eng.) (UCT, UW)
or B.Sc.Eng. (UN)

Bachelor of Engineering: B.Eng. (UDW, PU for CHE, UP, RAU, US)

Additional admission requirements:

UCT: See ARTS for the admission rating system.

- In calculating points the scores of Mathematics and Physical Science will be doubled.
- Scores will be based on the six best subjects of each applicant, subject to Mathematics, Physical Science and English being included. The other recognised subjects are Accountancy, Additional Mathematics, Afrikaans, Biology, Business Economics, Economics, French, Geography, German, Greek, Hebrew, History, Italian, Latin, Portuguese, Spanish, an African Language.

- Mathematics and Physical Science must be passed on the Higer Grade.
- Applicants must obtain the following minimum points to be accepted :

	Automatically accepted	Waiting list
Chemical Engineering	48	42 - 47
Civil Engineering	42	40 - 41
Electrical/Electronic Engineering	48	44 - 47
Materials Engineering	46	42 - 45
Mechanical Engineering	48	44 - 47
Surveying	42	40 - 41

UDW: A pass of at least 50% (D symbol) in Mathematics HG.

UN: Passes of at least 40% in Mathematics HG and in Physical Science HG.

PU for CHE: A pass of at lest 50% in Mathematics HG, and a pass of at least 50% in Physical Science HG or at least 60% in Physical Science SG.

UP: Passes in Mathematics and Physical Science of

- at least 50% in the one on the Higher Grade and at least 40% in the other on the Higher Grade; or
- at least 50% in the one on the Higher Grade and at least 50% in the other on the Standard Grade; or
- at least 40% in the one on the Higher Grade and at least 60% in the other on the Standard Grade; or
- at least 60% in the one on the Standard Grade and at least 50% in the other on the Standard Grade.

RAU: A pass of at least 40% in Mathematics HG or at least 50% in Mathematics SG.

US: At least a D symbol in Mathematics HG and at least an E symbol in Physical Science HG or at least a C symbol in Physical Science SG.

UW: Passes in Mathematics HG and Physical Science HG: Provided that the Senate may in exceptional circumstances, accept a pass of at least 60% on the Standard Grade in either or both of these subjects.

Duration: Four years of full-time study. At the University of Pretoria the degree course can be taken partly extra-murally and partly full-time:

- Five years if only the first academic year is taken extra-murally over two years; or

- six years if the second academic year is also taken extra-murally over two years.

The following branches/options are offered by the universities mentioned:

Aeronautical Engineering: UW

Agricultural Engineering: UN, UP

Biomedical Engineering: UCT (See BIOMEDICAL SCIENCES)

Chemical Engineering: All the universities except RAU

Civil Engineering: All the universities except PU for CHE

Electrical Engineering: UDW, UN, UP, US, UW

Electrical and Electronic Engineering: UCT, PU for CHE, RAU

Electronic Engineering: UN, UP, US

Industrial or Production Engineering: UP, US, UW

Land Surveying or Surveying: UCT, UW (See LAND SURVEYING)

Materials Engineering: UCT

Mechanical Engineering: All the universities

Metallurgical Engineering: PU for CHE, UP, US, UW

Metallurgy: UW

Minerals Process Engineering: UW

Mining Engineering: UP, UW

Physical Metallurgy: UW

PU for CHE offers training in Agricultural, Civil, Industrial and Mining Engineering up to second-year level.

POSTGRADUATE DEGREES

Bachelor of Engineering (Honours): B.Eng.(Hons.) (UP)

Master of Philosophy: M.Phil. (UCT)
Master of Science in Engineering: M.Sc.(Eng.) (UCT, UW) or M.Sc.Eng. (UN)
Master of Engineering: M.Eng. (UDW)
Magister in Engineering: M.Eng. (PU for CHE, UP, RAU, US)
Master of Science in Applied Science: M.Sc. (Appl.Sc.) (UCT)
Master of Industrial Administration: M.Ind.Admin. (UCT)
Magister Philosophiae: M.Phil. (RAU)

Doctor of Philosophy: Ph.D. (UCT, UN, UW)
Doctor of Science in Engineering: D.Sc. (Eng.) (UCT, UW) or D.Sc.Eng. (UN)
Doctor of Philosophy in Engineering: Ph.D.(Eng.) (UDW)

Doctor of Engineering: D.Eng. (UDW, PU for CHE, UP, RAU, US, UW)
Doctor Philosophiae: D.Phil. (RAU)
Doctor of Philosophy (Engineering): Ph.D. (Eng.) (US)

POSTGRADUATE DIPLOMAS

(a) Diploma in Engineering or

(b) Graduate Diploma in Engineering (UCT)

Admission requirements:

(a) A non-graduate who holds approved professional qualifications or a graduate

(b) Only a graduate

Duration: Candidates have to complete courses chosen from special courses offered by the Faculty of Engineering and from other faculties.

(a) Diploma in Industrial Administration or

(b) Graduate Diploma in Industrial Administration (UCT)

Admission requirements: As for the aforementioned two diplomas.

Duration: Candidates have to complete course-work prescribed by the Co-ordinator, Industrial Administration Programme, Department of Mechanical Engineering.

Diploma in Engineering (UN)

Admission requirements: B.Sc.Eng.

Duration: At least one semester of study.

Diploma in Mining (UP)

Admission requirements: A Bachelor's degree in any branch of Engineering or a Bachelor's degree in Mining Geology or the status thereof.

Duration: A minimum of one year of full-time study.

Postgraduate Diploma in Quality Control and Reliability (UP)

Admission requirements: A Bachelor's degree in any branch of Engineering or an appropriate Bachelor of Science degree.

Duration: Two semesters of extra-mural study.

Postgraduate Diploma in Engineering (Industrial field) (US)

Admission requirements: An approved Bachelor's degree in Engineering; or other academic degree qualifications and appropriate experience acceptable to the Senate.

Duration: One year.

Graduate Diploma in Engineering: G.D.E. (UW)

Admission requirements: A candidate must hold one of the following degrees: B.Sc.Eng., B.Sc.Hons., B.Sc. in Town and Regional Planning or B.Sc. in Building, or have been admitted to the status thereof.

Duration: One year of full-time study or two years of part-time study.

VOCATIONAL SERVICE: Engineering is a vital branch of the Applied Sciences. Scientists are, for instance seeking basic knowledge. Their objective is to discover new principles or combinations of known principles in order to explain natural phenomena and for this they make use of Mathematics, Physics, Chemistry and so forth. Engineers, in their turn, ensure that the knowledge which the scientists give to man is applied. Although engineers are also thinkers, they are, by virtue of their profession, men and women of action.

There are various branches of engineering, but they cannot be demarcated in watertight compartments, so that activities in different fields often overlap. The rapid increase in the expertise of engineers has also given rise to many subdivisions in engineering such as aviation, shipping and nuclear engineering, as well as fields such as machine construction, refrigeration and air-conditioning and so on. More information on specific fields may be obtained from the universities concerned or from the SA Council for Professional Engineers, P.O. Box 61019, Marshalltown 2107, Transvaal.

Aeronautical Engineering: Aerodynamics, that is everything concerning air-flow, i.e. the aircraft's profile and expected performance as well as stability and propulsion requirements must be taken into consideration when designing an aircraft. The aeronautical engineer is responsible for the choice of materials and production methods, testing and strength calculations. In addition, he must continuously develop new production methods and ensure that the optimum production processes are utilised.

He must evaluate and check any modifications to aircraft to ensure that airworthiness is not affected. He also ensures that all prototypes are thoroughly tested before they are commissioned. He is responsible for the development of improved flying techniques and the compilation of manuals and maintenance procedures.

The aeronautical engineer is employed inter alia by the Department of Transport.

Agricultural Engineering: Agriculture as a vital part of the South African economy is increasingly being approached scientifically, particularly at the engineering level. The agricultural engineer is involved in the design of agricultural machinery, soil and water conservation, the construction of farm buildings and other structures, the processing and handling of agricultural produce, as well as in the operational aspects of agriculture.

Agricultural engineers are employed in a consulting, research and management capacity inter alia by government departments, agricultural co-operatives and manufacturers of agricultural and irrigation equipment.

Chemical Engineering involves research on as well as the development, design, construction, operation and management of those industrial processes in which raw materials are chemically or physically transformed into products with a high economic value. Such processes are used in the field of plastics, synthetic fibres, fuel refinement, explosives, mining, food processing, fertilizers, pharmaceutics and nuclear power.

Rapid industrial expansion in the RSA has created opportunities for chemical engineers in a wide variety of engineering fields including research, economic evaluation, manufacturing of equipment, site construction, on-site attendance, sales and service.

Civil Engineering: These engineers, who form the largest group in the country, generally speaking, deal with the planning, design, layout, construction and maintenance of projects concerned with the control and adaptation of man's physical environment in the interests of his comfort and benefit. In practice such projects deal with bridges, roads, docks, airport runways, railways, tunnels, dams, canals, sewerage and drainage systems, gas and water supplies, mine headgears and other large structures. There are many specialised subbranches of civil engineering such as those of the structural engineer, municipal engineer, road or railway engineer, water engineer, etc. Thus there are many opportunities for specialisation, insight, initiative and research.

As the Government is responsible for some of the largest projects, the largest variety of career opportunities is found in the Departments of Environment Affairs; Public Works and Land Affairs; Agriculture and Water Supply; Development Aid; Transport; and the administrations of the four provinces. Civil engineers are also employed by the Railways, municipalities of large cities, the CSIR, construction companies and other private concerns, universities and technikons.

In addition, the Consulting Engineers are important as employers of especially civil, but also of other engineers. In conjunction with this, there are the opportunities of a private consulting practice as an ultimate career for graduates. Consulting Engineers are self-employed and they or their firms receive commissions from Government, provincial or municipal bodies and, to a very large extent, from industrial and other undertakings to carry out the design and to supervise the construction of projects. (More information can be obtained from the SA Association of Consulting Engineers, P.O. Box 61019, Marshalltown 2107.)

Electrical and Electronic Engineering: Electrical engineering involves the generation and use of electrical power for mankind's benefit. Phenomenal developments in the electronics field over the past number of decades, particularly in respect of microelectronics, has in turn led to the emergence of a separate fully fledged subject field, Electronic Engineering, which focuses mainly on communications, computer science, television, radar, guided missiles, etc.

The electrical and electronic engineer is trained to accept professional responsibility for successful designs, specifications, construction projects, operationalization, tests and maintenance in respect of electrical or electronic equipment and systems.

Industrial Engineering (also known as production engineering) is a relatively new branch of engineering and the demand is increasing owing to increased productivity. Its function is basically that of ensuring the maximal utilisation of the production factors by planning, arrangement of equipment, scheduling of work, control over labour, production, material, quality and cost. He combines knowledge of engineering (mainly mechanical) with the principles of management and business economics.

His occupational field lies mainly in industries such as the transport services, mines, Iscor, Ucor, large industries; the government service and lecturing at a university and research.

Mechanical Engineering: This field of study includes the design, construction, marketing, installation and maintenance of mechanical equipment such as machine tools, equipment for handling material, automatic production line machinery for factories, mining plants, road and agricultural machinery, refrigeration and air conditioning plants, boilers, pumps, air compressors, turbines, oil and gas engines, automobiles, aircraft, ships and railway locomotives. These engineers also plan new factory layouts.

The mechanical engineer therefore renders a particular service to the community which can justly be considered as the cornerstone of modern technology. The processing, handling and distribution of a product is directly dependent upon the application of the principles of mechanical engineering science.

The best career possibilities are consequently found with the SA Transport Services, Armscor, NUCOR, UCOR, SABS, Post and Telecommunications, mining, motor companies, large municipalities, other industries and the public service.

Metallurgical Engineering: This type of engineer has a twofold field, to wit the extraction or recovery of a metal from its original ore and complex compounds, and the study of the physical properties thereof with a view to processing into useful products. The functions of the metallurgist embrace all aspects of metal and alloy technology - from the stage the metalliferous minerals have been mined and made available for treatment to the finished product used by mankind.

The metal manufacturing industry is showing tremendous progress and consequently offers opportunities to an increasing number of engineers, particularly as far as research is concerned. The following are only a few of the bodies with whom job opportunities exist: Mintek, CSIR, NUCOR, all mines engaged in the extraction of metals, the iron and steel industry, lecturing posts at universities and technikons.

Metallurgy: Metallurgists, are concerned with the science and technology of metals and can generally be divided into three groups, viz extractive metallurgists, who process ore and extract and refine the metal; the manufacturing metallurgists, who process metals into alloys and change these into various useful forms, and the physical metallurgists, who are concerned with the physical characteristics of processed metals and alloys as well as their behaviour when in use.

For research work which has to be undertaken, particularly in extraction and physical metallurgy, the Council for Mineral Technology (Mintek), Randburg, serves as a research centre for practically the whole of the South African mineral industry. The work of this Council is managed by various sections. Some mining companies undertake research work in their own laboratories, while the Chamber of Mines has a large research organisation in Johannesburg.

For more information in connection with employment, training and so forth, intending students in this field are referred to the following bodies, which also represent the most important employers: The Chamber of Mines, the individual mining groups, Iscor, Foskor, Nucor, Armscor, and the Universities of Pretoria and the Witwatersrand.

Mining Engineering: Although mining in this country is usually connected with gold, diamonds and coal, many other minerals such as iron, chrome, manganese, copper and asbestos ores are mined here. The mining engineer is concerned with all the different types of mining - from the stage when he and the geologists are looking for new deposits right through to the time when a new mine has been established and is producing metals or other minerals for sale. He is concerned with both the scientific and the practical side of the mineral industry from the exploration stage to the marketable product and may even find himself concerned with problems of the establishment of towns, roads, railway junctions, power and water supplies. Many mining engineers hold executive and managerial posts, particularly where supervision and safety are concerned. Employers include the various mining undertakings and large mining houses, the SA Chamber of Mines, universities and private consulting engineers.

Posts for engineers in the respective disciplines exist in the Government departments of Agriculture and Water Supply, Environmental Affairs, Transport, Public Works and Land Affairs, Health Services and Welfare, Constitutional Development and Planning, Development Aid and semi-government divisions such as AECI, Escom, Foskor, NUCOR, Armscor, Mintek, Posts and Telecommunications, SABS, SA Transport Services, UCOR, CSIR, Iscor and industries and mining companies.

FINE ARTS

Universities: UCT, UDW, UFH, UN, UOFS, PU for CHE, UP, RU, UNISA, US, UW

FIRST DEGREES

Bachelor of Arts(Art): B.A.(Art) (UCT)

Additional admission requirements: Candidates must submit proof of practical ability in art.

Duration: Three years of full-time study.

After graduation candidates are admitted to the course for the Higher Diploma in Education (Postgraduate): Secondary. See EDUCATION.

Bachelor of Arts in Fine Art: B.A.(Fine Art) (UCT)

Baccalaureus Artium in Fine Arts: B.A.(F.A.) (UDW)

Bachelor of Arts in Fine Arts: B.A.(F.A.) (UFH, UNISA, US)

Bachelor of Arts in Fine Arts: B.A. Fine Arts (UN, UW)

Baccalaureus Artium (Fine Arts): B.A.(Fine Arts) (UOFS, PU for CHE)

Bachelor in Fine Arts: B.A.(F.A.) (UP)

Bachelor of Fine Art: B.Fine Art (RU)

Additional admission requirements: As for the B.A. degree, see ARTS. Some universities require proof of practical ability in Art.

US requires a pass in Mathematics or Physical Science for the field Jewellery Design and Metal Industry Design.

Duration: Four years of full-time study. Three years of full-time study at UFH.

The major fields of study are as follows:

Applied Graphics (includes Graphic Design and Photography) : US

Ceramics: UN, UOFS

Design: PU for CHE

Design and Drawing: UW

Drawing: UN, UOFS

Education (Secondary): US

Fine Arts: UNISA, US

Graphic Art: UFH, UOFS, PU for CHE, RU, UNISA, UW

Illustration: UCT

Information Design: UP

Jewellery Design: UDW

Jewellery Design and Metal Industry Design: US

Painting: UCT, UDW, UFH, UN, UOFS, PU for CHE, RU, UW

Painting and Graphic Art: UP

Photographic Arts: RU

Photography: UCT, UN

Printmaking: UCT, UDW, UN

Sculpture: UCT, UDW, UFH, UN, UOFS, PU for CHE, RU, UW

Sculpture and Graphic Art: UP

Most of the universities offer History of Art as a major subject for the ordinary B.A. degree. UDW offers Art, and UN Fine Art as a major subject for the ordinary B.A. degree. RU offers Fine Art Studies as a major and two courses in Fine Art Practice for the B.A. degree.

See EDUCATION for degree and diploma courses for teacher training in the field of Fine Arts.

POSTGRADUATE DEGREES

Honoris Baccalaureus Artium in Fine Arts: B.A.(F.A.)(Hons.) (UDW)
Bachelor of Arts in Fine Arts (Honours): B.A.(F.A.)(Hons.) (UFH)
Honours Bachelor of Arts in Fine Arts: B.A. in Fine Arts Hons. (US)

Master of Fine Arts: M.F.A. (UCT) or M.A.(F.A.) (UP)
Master of Arts in Fine Art: M.A.(F.A.) (UCT)
Magister Artium in Fine Arts: M.A.(F.A.) (UDW)
Master of Arts in Fine Arts: M.A.(F.A.) (UFH)
Master of Arts in Fine Arts: M.A. Fine Arts (UN, UNISA, US) or
M.A. (Fine Arts) (UW)
Magister Artium (Fine Arts): M.A. (Fine Arts) (UOFS) or
M.A.(F.A.) (PU for CHE)
Master of Fine Art: M.Fine Art (RU)
Master of Philosophy: M.Phil. (UCT)

Doctor of Philosophy: Ph.D. (UCT, UN, RU, UW)
Doctor Philosophiae: D.Phil. (UDW, PU for CHE, UP, US)
Doctor Philosophiae (Fine Arts): D.Phil. (Fine Arts) (UOFS)
Doctor of Literature and Philosophy: D.Litt. et Phil. (UNISA)
Doctor of Literature: D.Litt. (UN, UW)

DIPLOMAS

Diploma in Fine Art (UCT)

Diploma in Fine Art: Dip.Fine Art (RU)

Admission requirements: A Senior Certificate.

Duration: Four years of full-time study. The courses are similar in content to that for the Bachelor's degree in Fine Art.

Diploma in Graphic Design (UCT)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). Candidates who hold a Senior Certificate or who show special aptitude for art, may with the permission of the Director of the Michaelis School of Fine Art be accepted for this course.

Duration: Four years of full-time study.

Advanced Diploma in Fine Art (UCT)

Admission requirements: B.A. in Fine Art or B.A. (Art) or a Diploma in Fine Art or a Diploma in Graphic Design.

Duration: One year.

Diploma in Fine Arts: Dip.F.A. (UFH)

Admission requirements: A senior Certificate with an average of at least an E symbol.

Duration: Three years of full-time study. Students major in either Painting or Sculpture and in one of the following: Graphic Design, Pottery or Textile Design.

Advanced Diploma in Fine Arts (UN)

Admission requirements: An approved degree or the status thereof or special conditions acceptable to the Senate.

Duration: One year of full-time study or two years of part-time study.

VOCATIONAL SERVICE: The aim of the course is the academic shaping of art students into independent, responsible creators with an identity of their own.

Art students usually follow careers related to their particular study fields. Graphic designers are employed for instance by private design studios, advertising firms and television design studios. Some become college or university lecturers, while others do freelance work or follow careers in photography.

Jewellery design students give expression to their creativity as goldsmiths in their own workshops or as designers for jewellers and in factories.

Art graduates can enter the following fields: teaching, advertising and communication; cultural institutions e.g. museums, art galleries, libraries, the performing arts councils, or they can become professional artists.

Also consult Tertiary Training for particulars on the National Diplomas in Art and Design.

FISHERIES SCIENCE

University: RU

DIPLOMA

Diploma in Fisheries Science (Postgraduate): Dip.Fisheries Sc.

Admission requirements: A B.Sc. degree with Zoology or equivalent as a major, or a Bachelor's degree in Agriculture or Veterinary Science or an equivalent qualification.

Duration: One academic year of full-time study.

VOCATIONAL SERVICE: Ichthyology is the study of the classification, evolution, biology, ecology and physiology of fishes whereas Fisheries Science is the study and management of captive and wild fish stocks, thus including aspects of ichthyology, limnology, oceanography, aquaculture, economics, marketing, food processing, environmental law, etc.

Fishes are the most abundant of recent vertebrates with over 20 000 described species. Fishes represent an important grade of evolution, and show an extraordinary range of anatomical, physiological and behavioural adaptations to their environment. They are also an extremely important food source in many parts of the world.

The Department of Ichthyology and Fisheries Science at Rhodes University, the only department of its kind in Southern Africa, was established to cater for the growing need in the subcontinent for the proper training of fisheries staff. Besides the Diploma in Fisheries Science the Department offers a B.Sc. Honours degree in Ichthyology and Fisheries Science. Prospective students must be in possession of a B.Sc. degree with a Zoology or Biology major or equivalent.

Ichthyologists have found employment, inter alia, in nature conservations, museums, research institutes, as environmental consultants, as teachers at schools and lecturers at universities, and in the fishing and fish culture industries. The expanding field of fisheries science also offers career opportunities in food processing, gear technology, fisheries economics, the integration of agriculture and aquaculture and in fisheries management.

FOOD SCIENCE

University: US

Food Science is one of the major subjects for the B.Sc. (Agric.) degree at UP. See AGRICULTURE.

FIRST DEGREE

Bachelor of Science in Food Science: B.Sc. in Food Science

Additional admission requirements: As for the B.Sc. Agric. degree. See AGRICULTURE.

Students are required to devote at least two months during the summer and/or winter vacations to practical work in approved food processing factories or nutritional research institutions.

POSTGRADUATE DEGREES

Honours Bachelor of Science in Food Science: B.Sc. in Food Science Hons.

Master of Science in Food Science: M.Sc. in Food Science

Doctor of Philosophy (Food Science): Ph.D. (Food Science)
Doctor of Science in Food Science: D.Sc. in Food Science

VOCATIONAL SERVICE: Although the food industry is the largest and most stable industry in the world, it must constantly keep pace with the rapid growth in the world's population. Furthermore, it is one of the industries with the greatest demand for scientists and technologists, since the supply of suitable and healthy food is a necessity for existence. South Africa also urgently needs food scientists and technologists. They play a key role in the modern food industry and are indispensable to the industry of the future and for the development and welfare of the entire country. The many different manufactured food products which are sold today and which save the consumer so much time and trouble with regard to their preparation constitute the achievement of food science.

Food Science entails a careful study of the chemistry, biochemistry, physiology, microbiology and physics of all types of edible animal and plant material. This knowledge is applied in the technology involved in the preserving and processing of a large variety of products in different ways. The result is that tasty, nutritious and wholesome food that will not spoil easily can be economically produced by the industry. Consequently food science concerns the application in practice of the basic sciences relating to food.

Food scientists are employed inter alia by research institutes of the Department of Agriculture and Water Supply and the CSIR. Quality control is undertaken by the SABS as well as by food factories and agricultural control boards. Food products are manufactured in factories under the control and supervision of food scientists. Lecture posts are also available at universities, agricultural colleges and technikons.

FORESTRY

University: US

FIRST DEGREE

Bachelor of Science in Forestry: B.Sc. in Forestry

Additional admission requirements: At least an E symbol in Mathematics SG and a pass in a science subject SG. Prospective students who wish to take a course which includes Chemistry and/or Physics are strongly advised to take Physical Science for the Std 10 examination. Should a student wish to take Botany and/or Zoology he is advised to take Biology as well as Physical Science for the Std 10 examination.

Duration: Four years of full-time study.

In their third year of study students can select one of two fields, viz Silviculture or Silviculture - Nature Conservation.

In their fourth year of study students may enrol for the Forest Exploitation field. The first three years are the same as that for the B.Sc. in Forestry (Silviculture).

Students are required to do practical work during vacations and to undertake study tours.

POSTGRADUATE DEGREES

Honours Bachelor of Science in Forestry: B.Sc.Hons. in Forestry

Master of Science in Forestry: M.Sc. in Forestry

Doctor of Philosophy (Forestry): Ph.D. (Forestry)
Doctor of Science in Forestry: D.Sc. in Forestry

VOCATIONAL SERVICE: Forestry is mainly concerned with the growing, exploitation and processing of timber. Forestry also comprises nature conservation, improvement of human environment and the provision of recreational opportunities.

The Forest Science course concentrates on the establishment, development and management of forests. The two major subjects are Silviculture and Forest

Management. Silviculture deals with the biological aspects of forestry e.g. tree species, nurseries, treatment of forest stands, methods of establishment and forest protection. Forest Management deals with such matters as operational analysis, planning, cost accounting and general management principles. A subject of increasing economic importance is Forest Exploitation because the felling and extraction of timber represents the most costly link in the production chain.

The main employer of Forest Science graduates is the Directorate of Forestry under the Department of Environmental Affairs. An increasing number of private companies and organizations, municipalities and research institutes also employ graduates.

Also consult Tertiary Training for particulars on the Diploma in Forestry.

GEOHYDROLOGY

University: UOFS

DIPLOMA

Postgraduate Diploma in Geohydrology

Admission requirements: A B.Sc. or B.Sc.Eng. degree or equivalent qualification with one of the following subjects at third-year level: Applied Mathematics, Chemistry, Computer Science, Geology, Mathematical Statistics, Mathematics, Physics.

Duration: Two semesters.

UOFS also offers Geohydrology as a subject for degree study.

VOCATIONAL SERVICE: Geohydrology (Ground Water Studies) involves the detection, exploitation and conservation of the country's underground water supplies as well as finding solutions to problems with water in mines.

Career opportunities are offered inter alia by the Department of Water Affairs, the mining industry, universities, certain research institutions including the CSIR and MINTEK.

GEOTECHNOLOGY

University: PU for CHE

FIRST DEGREE

Baccalaureus Scientiae (Geotechnology): B.Sc. (Geotechnology)

Additional admission requirements: As for the B.Sc. degree.

Duration: Four years of full-time study.

This degree is recognised by the Association of Engineering Geologists (AEG).

VOCATIONAL SERVICE: Geotechnology involves the study of the mechanical properties of soil and rock for engineering purposes. Civil engineers use this information to design adjusted stable structures.

The syllabus includes Pedology and Geology. Graduates in geotechnology can practise privately or serve in any organization concerned with the erection of structures. Employers of geotechnologists include the National Transport Commission of the Department of Transport, the roads departments of the provincial administrations, the SA Transport Services, civil engineering firms, construction firms and city councils.

HOME ECONOMICS/DOMESTIC SCIENCE

Universities: UDW, UN, UOFS, PU for CHE, UP, US, UWC, UZ

FIRST DEGREES

Bachelor of Home Economics: B.Home Econ. (UDW)

Bachelor of Science in Home Economics: B.Sc. Home Econ. (UN)

Bachelor of Science in Domestic Science: B.Sc. Domestic Science (UOFS)

Baccalaureus Scientiae (Domestic Science): B.Sc. (Dom.Sc.) (PU for CHE)

Bachelor of Domestic Science: B. Domestic Science (UP)

Bachelor of Home Economics: B. Home Economics (General) (US)

Baccalaureus Artium in Human Ecology: B.A.(H.E.) (UWC)

Bachelor of Home Economics: B.H.E. (UZ)

Additional admission requirements:

UDW: A pass in Mathematics HG and in Biology HG or in Physical Science HG or at least 50% SG in the subjects mentioned.

UN: As for the B.Sc.Agric. degree. See AGRICULTURE.

UOFS: A pass in Mathematics HG or at least 40% in Mathematics SG as well as a pass in Physical Science SG and/or Biology SG. It is strongly recommended that prospective students take Physical Science for the Std 10 examination.

PU for CHE: As for the B.Sc. degree. See PURE NATURAL SCIENCES. It is strongly recommended that prospective students take Physical Science for the Std 10 examination.

UP: For the major field: Clothing and Interior a pass of at least 33 1/3% in Mathematics is required. Physical Science is strongly recommended.

For the major field: Food Management a pass of at least 40% (E symbol) in Mathematics HG and in Physical Science HG or at least 50% (D symbol) SG in the subjects mentioned are required. A pass in Physical Science is recommended for the General field.

US: A pass in Mathematics SG or in Physical Science SG or in Biology with at least a C symbol.

UWC: A pass of at least 40% HG or 50% SG in one of the following subjects: Biology, Physical Science or Mathematics.

UZ: A pass in Mathematics will be a recommendation.

Duration: Four years of full-time study. Three years of full-time study at UN. At PU for CHE there is a choice of two curricula, viz Food and Nutrition and Clothing/Interior.

UP offers a choice of three curricula, viz Clothing and Interior; Food Management and General.

Major subjects offered by the other universities are Clothing, Textiles, Interior, Food, Nutrition and Home Management.

See EDUCATION for degree and diploma courses for teacher training in the field of Home Economics.

POSTGRADUATE DEGREES

Bachelor of Science in Home Economics (Honours): B.Sc. Home Econ. Hons. (UN)
Baccalaureus Scientiae Honores in Domestic Science: B.Sc. Domestic Science Hons. (UOFS)
Honours Bachelor of Science: Hons.B.Sc. (PU for CHE)
Bachelor of Domestic Science (Honours): B.(Dom.Sc.)(Hons.) (UP)
Honours Bachelor of Home Economics: B.Home Economics Hons. (US)
Honours Bachelor of Science in Home Economics: B.Sc. Home Economics Hons. (US)
Honours Baccalaureus Artium in Human Ecology: B.A.Hons. (H.E.) (UWC)

Master of Science in Home Economics: M.Sc. Home Econ. (UN)
Master of Science in Domestic Science: M.Sc. Domestic Science (UOFS)
Master of Science: M.Sc. (PU for CHE)
Master of Domestic Science: M.Domestic Science (UP)
Master of Home Economics: M.Home Economics (US)
Master of Science in Home Economics: M.Sc. Home Economics (US)
Magister Artium in Human Ecology: M.A. (H.E.) (UWC)

Doctor of Philosophy: Ph.D. (UN)
Philosophiae Doctor: Ph.D. (UOFS)
Doctor of Science: (PU for CHE)
Doctor of Science in Domestic Science: D.Sc. (Domestic Science) (UP)
Doctor of Philosophy (Home Economics): Ph.D. (Home Economics) (US)
Doctor of Science in Home Economics: D.Sc. in Home Economics (US)

VOCATIONAL SERVICE: The domestic scientist is concerned with home-making and her aim is to create a physical and social environment in which proper human relationships can be established. Consequently it is the ideal course for the girl who is orientated towards the natural as well as the social sciences and who has a wide field of interests. The training amounts to a preparation for a pleasant and promising career and at the same time it equips the future housewife with scientific knowledge. In addition, the married woman always has the opportunity of utilising her training to the benefit of the community.

The teacher of domestic science, who herself is a professional person, will also be able to render valuable service and information outside the school context. As a result of the various branches which are available, men can also enter this profession today.

The following are some of the career possibilities open to the person trained in domestic science:

- A teacher of domestic science at secondary schools or lecturers at a college, technikon or university;
- a guidance officer in the Department of National Education who gives lectures and demonstrations for adult education;
- a liaison officer between manufacturer and consumer in respect of domestic requirements; in the employ of an architect or a firm concerned with manufacturing clothes, food, furniture, interior decorating or fashion and designing; in the service, mainly for counselling, of the control boards;
- journalist for women's columns in periodicals, newspapers, radio, television and advertising companies or as a travelling representative;
- a research officer employed by, for example, the CSIR, SABS, MRC and food research institutes; or
- a private practice to act as fashion, interior and food consultant.

INDUSTRIAL RELATIONS/LABOUR RELATIONS

Universities: UN, UPE, RAU

FIRST DEGREES

Baccalaureus Artium Honores: B.A.Hons. or

Baccalaureus Commercii Honores: B.Com.Hons. (UPE)

Admission requirements: At least one of Economics, Industrial and Organisational Psychology, Psychology or Sociology as a major subject for the Bachelor's degree and a pass of at least 60 marks.

Duration: One year of full-time study or two years of part-time study.

POSTGRADUATE DEGREES

See ARTS and COMMERCE.

DIPLOMA

Postgraduate Diploma in Industrial Relations: Postgrad. Dip.Ind.Rel. (UN)

Admission requirements: Any graduate or any person who has received special permission of the Senate to register for the Diploma.

Duration: One year of full-time study or two years of part-time study.

Note: RAU offers the degree of B.Com. (Manpower Strategy and Labour Relations). See COMMERCE.

VOCATIONAL SERVICE: Industrial Relations, or Labour Relations, deals with the collective relationships among people in organizations. Collective, because it concerns groupings of employers into teams or associations, of employees into trade unions or other employee representative bodies; and organizations that may vary from factories to mines, the railways, commerce, hospitals and so forth.

Industrial Relations (IR) is not Personnel Management which is a related, but different occupation. An IR person can fulfil a variety of roles, such as:

- Industrial relations officer, dealing with shop stewards and worker representatives at factory level.
- Industrial relations managers determining and carrying out policy and procedure on behalf of the management of a company or organization. Responsible for negotiation and bargaining with trade unions.
- Trade union officers operating on behalf of a union.
- IR specialist within an employer organization such as the Federated Chamber of Industries or the Steel and Engineering Industries Federation of SA.
- Labour lawyer, specialising in the specific field of law covering employer-employee collective relations.

There is a demand for persons with skills in Industrial Relations and it can be expected to increase as worker organizations grow, and with it pressure on employers.

INFORMATION PROCESSING/DATA PROCESSING

Note: The subject Computer Science is offered by most of the universities as a major subject for the B.Sc. degree.

Universities: RU, UNISA, UW, UZ

FIRST DEGREES

Bachelor of Science (Information Processing): B.Sc. (Inf. Proc.) (RU)

Additional admission requirements: At least an E symbol in Mathematics HG or a D symbol in Mathematics SG.

Duration: Three years of full-time study.

Information Systems may be taken as a major subject for the B.Sc. and B.Sc.Hons. degree at UNISA. See PURE NATURAL SCIENCES.

DIPLOMAS

Diploma in Datametrics (UNISA)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) with a pass in Mathematics.

Duration: At least two years. The Diploma must be obtained within five years of a student's first registration for the diploma.

Higher Diploma in Computer Science (UW)

Admission requirements: A Bachelor's degree and experience in computer programming. Computer Science must not have been a major subject for the degree.

Duration: Two years of part-time study.

Diploma in Data Processing and Systems Analysis: Dip.D.S.A. (UZ)

Admission requirements: A Senior Certificate, preferably with Mathematics as a subject.

Duration: Three years. This Diploma is offered by the University's Institute for Public Service and Vocational Training.

VOCATIONAL SERVICE: See Computer Science under the vocational service of PURE NATURAL SCIENCES.

LANDSCAPE ARCHITECTURE

University: UP

FIRST DEGREE

Bachelor of Landscape Architecture: B.L.

Additional admission requirements: A pass of at least 40% (E symbol) in Mathematics HG or 50% (D symbol) in Mathematics SG and a pass of at least 40% (E symbol) in Physical Science HG or SG.

Duration: Four years. Three years of full-time study and one year of full-time employment with a landscape architect or related industry during the fourth year of study.

POSTGRADUATE DEGREES

Master of Landscape Architecture: M.L.

Doctor of Landscape Architecture: D.L.

VOCATIONAL SERVICE: Landscape Architecture includes planning and making recommendations in respect of regions or areas in order to render these as effective and attractive as possible. The work implies close co-operation with engineers, municipal officials, horticulturists and others. It also offers opportunities for specialisation in the planning and laying out of, for example, parks and playgrounds, school and university grounds, business centres, roads and so forth.

The largest employers are the provincial administrations, municipalities and the Department of Environmental Affairs. Private practice offers remarkable opportunities, since many bodies which require these services do not employ an architect on a full-time basis.

LAND SURVEYING

Universities: UCT, UFH, UN, UP, UW

FIRST DEGREES

Bachelor of Science in Surveying: B.Sc. (Survey.) (UCT)
Bachelor of Science (Surveying): B.Sc. (Surv.) (UFH)
Bachelor of Science in Land Surveying: B.Sc.Sur. (UN)
Bachelor of Land Surveying: B.(Land Surveying) (UP)
Bachelor of Science in Engineering: B.Sc.(Eng.) (UW)

Additional admission requirements:

UCT, UN, UP, UW: As for the Engineering degree. See ENGINEERING.
UFH: As for the B.Sc. degree. See PURE NATURAL SCIENCES.

Duration: Four years of full-time study.

POSTGRADUATE DEGREES

Master of Science in Engineering: M.Sc.(Eng.) (UCT, UW)
Master of Science in Land Surveying: M.Sc.Sur. (UN)
Master of Land Surveying: M.(Land Surveying) (UP)
Master of Philosophy: M.Phil (UCT)

Doctor of Philosophy: Ph.D. (UCT, UN, UW)
Doctor of Science in Engineering: D.Sc.(Eng.) (UCT, UW)
Doctor of Science in Land Surveying: D.Sc.Sur. (UN)
Doctor of Land Surveying: D.(Land Surveying) (UP)
Doctor of Engineering: D.Eng. (UW)

POSTGRADUATE DIPLOMA

Diploma in Aerial Surveying: Dipl.Aer.Surv. (UN)

Admission requirements: A degree.

Duration: One year of full-time study or two years of part-time study.

VOCATIONAL SERVICE: Surveying can be described as the art and science of recording data of natural and artificial features on the earth's surface and presenting this information in the form of maps, plans and numerical data. Surveys are necessary for engineering, planning, legal and research purposes. Some of the best developed branches of surveying are:

- Geodetic surveying which is mainly concerned with the size and shape of the earth and the precise location of points on a global basis; it includes astronomical and gravimetric observations.

- Photogrammetry is concerned mainly with surveying by means of air photographs, but the scope extends to other fields wherever there is a need for the precise measurement of surface, however small.

- Cadastral surveying deals with the demarcation of property boundaries.

- Engineering surveying (including mine surveying) covers a very wide field of activity connected with mining operations, tunnelling, harbour works, bridge building, dam construction, road and railway reconnaissance and construction, to mention a few applications.

Surveyors are employed in government departments such as the Department of Public Works and Land Affairs, Mineral and Energy Affairs; the SA Transport Services, the mines, municipalities, and universities. A land surveyor can go into private practice, usually in partnership with others.

In the Republic, where the process of division and subdivision, the planning of new cities, the building of roads etc., will be in progress for a long time to come, the occupational prospects for land surveyors are virtually unlimited.

LAW

Universities: All the universities except MEDUNSA and VISTA.

FIRST DEGREES

Baccalaureus Procurationis: B.Proc.
(All the universities except UCT and US)

Additional admission requirements: As for the B.A. degree. Some universities require either a pass in Latin or a pass in a special course in Latin at the university concerned.

UNORTH: A pass in both official languages.

UW: A pass on the Higher Grade in three of the following subjects: Afrikaans First Language, Art, African Language, Biology, English First Language, French, Geography, German, Hebrew, History, Latin, Methematics, Music, Physical Science, Physiology.

Duration: Four years of full-time study or four or five years of part-time study.

This degree provides training for students who wish to qualify as attorneys.

No student will be allowed to take Roman Law I unless he has passed Std 10 Latin or is exempt from this requirement by virtue of another examination.

Baccalaureus Iuris: B. Iuris (UDW)

Bachelor of Law: B.Juris (UFH)
or B. Iur. (UNISA)

Baccalaureus Iuris: B. Iur. (UNORTH, UOFS, UP)

Baccalaureus Juris: B. Juris (UPE)
or B.Jur. (PU for CHE), UZ)

Baccalaureus Iurisprudentiae: B. Iuris (UWC)

Additional admission requirements: As for the B.Proc. degree.

Duration: Three years of full-time study or four years of part-time study. The course extends over four years of full-time study at UNORTH.

Baccalaureus Artium in Law: B.A. (Law) (UDW)

Bachelor of Arts (Law): B.A. (Law) (RAU)

Baccalaureus Artium (Law): B.A.(Law) (UWC)

Additional admission requirements:

UDW: An aggregate of at least 45% in the matriculation examination and a pass of at least 40% in Latin HG. Persons who have not passed Latin must pass Latin Special at the University.

RAU: A pass of at least 40% in Latin HG or a pass in the special course at the University.

Duration: Three years of full-time study.

Most of the other universities also offer law subjects in their B.A. curricula. US offers B.Com. with law subjects.

Baccalaureus Legum Civilium: B.L.C. (UP)

Additional admission requirements: As for the B.A. degree.

Duration: Three years of full-time or extramural study.

Baccalaureus Legum: LL.B. (UP)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). Additional requirements are similar to that for the B.A. degree.

Duration: Five years. May be shortened by a maximum period of three years if a candidate holds a Bachelor's degree which includes the prescribed LL.B. courses.

The curriculum for the first three years of study for the LL.B. degree is similar to that for the B.L.C. degree.

POSTGRADUATE DEGREES

Bachelor of Laws: LL.B. (UCT, UFH, UN, RU, UNISA, UW)

Baccalaureus Legum: LL.B. (UDW, UNORTH, UOFS, UPE, PU for CHE, RAU, UWC, UZ)

Legum Baccalaureus: LL.B. (US)

Admission requirements: A Bachelor's degree, or a B.Proc. or B.Iur. degree.

Duration: Three years of full-time study or two years of full-time study after a B.Proc. or B.Iuris degree or other Bachelor's degree which included the required Law subjects in the curriculum. Four years at the University of the North and five years at the University of Zululand.

At the University of South Africa the degree course extends over at least four years; two years after a B.Iuris or B.Proc. degree.

Master of Laws: LL.M. (UCT, UFH, UN, RAU, RU, UNISA, US, UW)
Magister Legum: (UDW, UNORTH, UOFS, UPE, PU for CHE, UP, UWC, UZ)
Magister Philosophiae: M.Phil. (RAU)

Doctor of Philosophy: Ph.D. (UCT, UN, RU, UW)
Doctor of Laws: LL.D. (UCT, UFH, UN, RAU, RU, UNISA, US, UW)
Doctor Legum: LL.D. (UDW, UNORTH, UOFS, UPE, PU for CHE, UP, UWC, UZ)
Doctor Philosophiae: D.Phil. (RAU)

DIPLOMAS

Diploma Juris (UFH, UPE)

Diploma Iuris (UN, UP, UNISA)

Diploma Iuris: Dipl.Iur. (UNORTH, UOFS)

Diploma Juris: Dip. Jur. (PU for CHE, UZ)

Diploma Iurisprudentiae: Dipl. Iuris (UWC)

Admission requirements: At least a Senior Certificate. UP requires a Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Duration: Three years of full-time study or four years of part-time study. The Diploma may be taken by members of the Civil Service, and has been recognised by the Commission for Administration as equivalent to the Public Service Law Examination.

Diploma Legum (UPE, UNISA)

Diploma Legum: Dip.Legum (PU for CHE)

Admission requirements: A Diploma Iuris or the degree of B.Juris or a degree or diploma which has been certified by the Board for the Recognition of Examinations in Law as equivalent.

Duration: Two years.

The Diploma has been recognised by the Board for the Recognition of Examinations in Law as equivalent to or higher than the Public Service Senior Law Examination.

Diploma Legum: Dip.Leg. (UZ)

Admission requirements: The Public Service Law Examination Certificate or any equivalent qualification.

Duration: Two years.

This Diploma and the Diploma Juris are offered by the University of Zululand's Institute for Public Service and Vocational Training.

The Diploma Legum has been recognised by the Board for the Recognition of Examinations in Law as equivalent to or higher than the Public Service Senior Law Examination.

Graduate Diplomas in Tax Law and in Estate Planning (UCT)

Admission requirements: A B.Com. graduate; or a graduate in Law; or an enrolled advocate or attorney of the Supreme Court of South Africa; or a chartered accountant; or a person whose qualifications are equivalent to any of the aforementioned.

Duration: Two years of part-time study. A successful candidate whose curriculum included the subject Advanced Tax Law shall be granted the Graduate Diploma in Tax Law; a successful candidate whose curriculum included Estate Planning shall be granted the Graduate Diploma in Estate Planning.

Advanced Diploma in Taxation (UN)

Admission requirements: The degree of B.Proc. or LL.B.; or an admitted attorney of the Supreme Court; or a chartered accountant; or a person who has had suitable practical experience in the application of taxation legislation.

Duration: Two years of part-time study.

Diploma in Maritime Law: Dip.Mar.Law (UN)

Admission requirements: The B.Proc. or LL.B. degree; or a Bachelor's degree and a professional qualification and practical experience.

Duration: One year of study.

Higher Diploma in Company Law: H.Dip.Co.Law (UW)

Admission requirements: LL.B. or B.Proc. or B.Com. or B.Accountancy; or an attorney or an accountant and auditor; or a person who holds any other approved academic or professional qualification.

Duration: One and a half years of part-time study.

Higher Diploma in Tax Law: H.Dip. Tax Law (UW)

Admission requirements: As for the H.Dip. Co. Law

Duration: Two years of part-time study.

VOCATIONAL SERVICE: Broadly speaking, the legal profession in the RSA covers the professions of advocate, attorney, legal adviser and various fields in the Public Service. However, it would be to a candidate's advantage to determine the usefulness of specific legal qualifications.

- Advocates have two main functions: to conduct criminal and civil cases in the Supreme Court or magistrates' courts, and to give opinions on legal problems. Their professional work comes to them from attorneys who "brief" them, for no member of the public can go direct to an advocate. Normally judges are appointed from the ranks of senior advocates. Advocates must hold at least the LL.B. degree. For the LL.B. degree at least one course in English, Afrikaans and Latin is a requirement.

- Attorneys deal with members of the public, represent and act for clients, appear in magistrates' courts, but not in the Supreme Court. Although they may concern themselves with various matters, there is a tendency among attorneys to specialise in some field or other. Most of them practise in private or in partnership with others. By writing additional examinations they can also qualify as notaries and conveyancers. Thus a person need not necessarily be a good public speaker or like to appear in court in order to be a successful attorney. Many attorneys who have advanced to the top of their profession rarely appear in court.

  A prospective attorney must, in addition to the legal qualification (B.Proc. or LL.B.), also article for 2 years with a practising attorney and subsequently pass a professional practical examination. The aforementioned two degrees are the only degrees acknowledged for admission as attorneys. (Std 10 Latin or a special course in Latin at a university is a requirement for B.Proc.)

  Nobody can practise simultaneously as an advocate and as an attorney. However, it is possible for a person with appropriate qualifications to switch from one branch to the other.

- Law-adviser: A person who does not wish to practise as an advocate or attorney or does not want to appear in court can possibly occupy one of the large number of posts open to legal advisers. In addition to those in Public Service, legal advisers are usually attached to large undertakings. All these institutions will, however, insist on the best possible qualifications and persons interested in this field must accept the fact that an LL.B. degree will be a minimum requirement. A double qualification, of which one component is a degree in law will be of great value.

- In the Public Service: In South Africa the attorney-general is the prosecuting authority on behalf of the State. The State President appoints an attorney-general for each of the six provincial divisions and for the Witwatersrand local division of the Supreme Court. State advocates appear in the Supreme Court and public prosecutors in the magistrate's court, in order to conduct prosecutions in criminal proceedings.

- Public Prosecutor: It is the duty of the Public Prosecutor to conduct the State's case against the accused and he is responsible for putting evidence before the court to prove the alleged crime in all its elements beyond reasonable doubt. This is done by questioning witnesses, handing in exhibits and cross-examining witnesses for the defence. Public prosecutors are required to do a considerable amount of research in order to be thoroughly prepared for a particular case.

The minimum qualification for appointment as a public prosecutor is the Diploma Iuris. A person may study for the Diploma Iuris or the B.Iuris while working in a clerical capacity at a magistrate's office, directly after completing Standard 10, or he may complete his studies before assuming duty. After the successful completion of the B.Iuris degree public prosecutors can study for the LL.B. degree which is a requirement for promotion to certain higher posts.

State Advocate: State advocates who are attached to the Attorneys-General Division of the Department of Justice, appear in the Supreme Court on behalf of the State in criminal trials. Their duties and responsibilities are basically the same as those of state prosecutors in magistrate's and regional courts (lower courts). State advocates do chamber work which includes the preparation of criminal court cases, furnishing legal opinions at the request of judges on cases, submitted for review by magistrate's courts to the Supreme Court, furnishing legal opinions concerning criminal matters to the Department of Justice, offering guidance to public prosecutors in lower courts, and deciding on the institution of prosecutions. This requires, inter alia, a study of the law, court records and police dockets.

For appointment as State Advocate an LL.B. degree is required, as is admission as an advocate of the Supreme Court of South Africa. No person is appointed State Advocate unless he has undergone training. This includes attending a course for public prosecutors at the Legal Training Division of the Department of Justice. The state advocate who renders meritorious work can attain the position of senior state advocate, deputy attorney-general and attorney-general.

State Attorney: The State Attorney's Division of the Department of Justice functions like an ordinary firm of attorneys, except that its clients are government bodies and not private individuals. The main function of the state attorney is to protect the interests of the State by acting on behalf of all government departments and administrations in civil cases and on behalf of officials arraigned in their official capacity.

For appointment as State Attorney a candidate must have at least a B.Proc. degree, and must have been admitted to the Supreme Court to practise as an attorney. In practice, however preference is given to candidates who have an LL.B. degree. The period to be served under articles is at least two years, and candidates must also sit for a practical attorney's admission examination before they may practise as attorneys. The promotion grades are assistant state attorney, senior assistant state attorney, deputy state attorney and state attorney.

State Law Adviser: Law advisers are appointed from the ranks of state advocates attached to the Attorneys-General Division with duties such as the framing of laws for parliament, the provision of legal advice to all government departments, the checking of regulations, ordinances etc. Some are attached to the different provincial administrations. The holder of a Bachelor's degree and an LL.B. degree can be considered for appointment and can attain the rank of chief state law adviser.

- Magistrate: The RSA is divided into more than 300 magisterial districts in order to execute the judicial function properly. Each district has a magistrate's office and a magistrate, together with the necessary supporting judicial and administrative personnel. The magistrate has two main functions, namely his judicial function which he performs in the court, and that of district administration which is carried out in the magistrate's office. The minimum legal qualification for appointment as a magistrate is the Diploma Iuris. However, higher qualifications are required for promotion to the senior ranks. The combination of degrees B.A., LL.B.; B.Com., LL.B.; B.Iuris, LL.B. and the Diploma Legum are recognised higher qualifications which may be obtained.

  The Commission for Administration makes bursaries available annually for both full-time and part-time university study. Candidates can, after leaving school, first obtain an appropriate qualification in law and then enter the Public Service, where they are immediately appointed as legal assistants. In the second place they can, directly after leaving school, be appointed in a magistrate's office, in which case they perform general clerical duties while they continue their studies part-time.

  Ranks of promotion are magistrate, senior magistrate, chief magistrate, regional magistrate, and regional court president.

- Master of the Supreme Court: The task of the Master's section of the Department of Justice or, indeed, the Master of the Supreme Court, is to guard against malpractices which aim at depriving legatees, heirs and creditors of their just dues. The work is highly specialised, responsible and of a confidential nature. Special training courses for officers are offered by the Department. A candidate starts his career in the Master's division as an estate controller. The minimum qualification is a Senior Certificate. However, law qualifications are required for promotion. The B.Iuris degree, or the Diploma Iuris, is the minimum qualification for promotion to the ranks of Assistant Master, Deputy Master and Master of the Supreme Court.

  Further particulars may be obtained from the Department of Justice.

LEATHER SCIENCE

University: RU

DIPLOMA

Diploma in Leather Science (Postgraduate): Dip. Leather Sc.

Admission requirements: A B.Sc. degree with Chemistry as a major subject. A candidate must obtain the permission of the Board of the Faculty of Science, on the recommendation of the Director of the Leather Industries Research Institute.

Duration: One year of full-time study.

VOCATIONAL SERVICE: Students gain practical training and experience in the Leather Industries Research Institute which is recognised by Rhodes University as an Associated Research Institution. There are also employment opportunities with manufacturers of leather goods.

LIBRARIANSHIP/LIBRARY SCIENCE

Universities: All the universities except UPE, MEDUNSA and VISTA.

FIRST DEGREES

Bachelor of Library and Information Science: B.Bibl. (UCT, UNORTH, UP, RAU)

Bachelor in Library and Information Science: B.Bibl. (UFH)

Baccalaureus Bibliothecologiae: B.Bibl. (PU for CHE, UWC)

Bachelor of Library Science: B.Bibl. (UOFS, UNISA, UZ)

Bachelor of Librarianship: B.Librarianship (US)

Additional admission requirements: As for the B.A. degree. See ARTS.

Duration: Four years of full-time study. The course extends over at least four years at UNISA.

Baccalaureus Bibliothecologiae: B.Bibl. (UDW)

Additional admission requirements: As indicated for the field concerned. See ARTS, COMMERCE and PURE NATURAL SCIENCES.

Duration: Four years. Candidates may qualify for the degree in one of the following fields: Arts, Natural Science or Commerce and Administration.

Bachelor of Library and Information Science (Honours): B.Bibl. Hons. (UN)

Admission requirements: A Bachelor's degree and a Higher Diploma in Library Science.

Duration: One year of full-time study or two years of part-time study.

UCT offers the B.Mus. degree with Library and Information Science as one of the options. See MUSIC.

POSTGRADUATE DEGREES

Bachelor of Library and Information Science Honours: B.Bibl.Hons. (UCT, UNORTH)
Honoris Baccalaureus Bibliothecologiae: B.Bibl. Hons. (UDW)
Bachelor in Library and Information Science (Honours): B.Bibl. (Hons.) (UFH)
Baccalaureus Bibliothecologiae Honores: B.Bibl. Hons. (UOFS)
Honneurs Baccalaureus Bibliothecologiae: Honns.B.Bibl. (PU for CHE)
Bachelor of Library and Information Science (Honours): B.Bibl. (Hons.) (UP)

Honours Bachelor of Library and Information Science: B.Bibl. (Hons.) (RAU)
Honours Bachelor of Librarianship: B. Librarianship (Hons.) (US)
Honours Bachelor of Library Science: Hons.B.Bibl. (UNISA, UZ)
Honours Baccalaureus Bibliothecologiae: B.Bibl.Hons. (UWC)

Master of Library and Information Science: M.Bibl. (UCT, UN, UNORTH, UP, RAU)
Magister Bibliothecologiae: M.Bibl. (UDW, UOFS, PU for CHE, UWC)
Master of Library Science: M.Bibl. (UNISA, UZ)
Master of Librarianship: M.Librarianship (US)
Master of Philosophy: M.Phil. (UCT)

Doctor of Philosophy: Ph.D. (UCT, UN)
Doctor Philosophiae: D.Phil (UDW, UP, RAU, US)
Doctor of Library and Information Science: D.Bibl. (UNORTH)
Doctor of Library Science: D.Bibl. (UNISA)
Doctor Bibliothecologiae: D.Bibl. (UOFS, PU for CHE, UWC)

DIPLOMAS

Lower Diploma in Library Science (UDW)

Lower Diploma in Librarianship: L.Dip.Lib. (PU for CHE, RU)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Duration: Two years.

Lower Diploma in Library and Information Science: L.D.L. (UFH, UNORTH)

Admission requirements: A Senior Certificate.

Duration: Two years.

Lower Diploma in Library and Information Science (UWC)

Admission requirements: A Senior Certificate with at least 40% in an official First Language HG or 50% in an official First Language SG. Candidates who have matriculation exemption must enrol for the B.Bibl. degree.

Duration: Two years.

Higher Diploma in Library and Information Science (UCT, UNORTH, PU for CHE, UWC)

Higher Diploma in Library Science (UDW, UFH, UN)

Higher Diploma in Librarianship (RU, UW)

Higher Diploma in Library Science: H.Dip.Bibl. (UZ)

Admission requirements: A Bachelor's degree.

Duration: One year of full-time study or two years of part-time study. At UFH the course extends over two years of full-time study.

Postgraduate Diploma in Library Science

or

Postgraduate Diploma in Information Science (RAU)

Admission requirements: A Bachelor's degree in any field of study.

Duration: Two semesters.

See EDUCATION for teachers' courses with specialisation in Librarianship.

VOCATIONAL SERVICE: Society is dependent on knowledge for its continued existence and progress. It is therefore the task of the librarian to collect this knowledge and to make it accessible for use by means of a well-organised library. The informational function of libraries is increasing daily and this aspect is progressively accentuated in training.

Two major subjects are studied, viz Library Science and Information Science. These subjects cover, inter alia, the history of libraries, the organization and management, the information itself, information retrieval and computer and data processing in libraries.

Because libraries and information centres contain information on all conceivable study fields, knowledge of any field of study is of importance to the librarian. Subjects such as Sociology, Criminology, Psychology, modern languages, Computer Science, etc. combine well with the two major subjects.

Various types of libraries as well as the sections of a library make it possible for library officers to perform work that is suited to their aptitude or particular training. Thus a librarian can as it were visit distant towns with his library if he has a post in the Provincial Library Service. There is also the possibility of a post as organiser of school libraries for an education department. The function of such a person is to advise school libraries. To be a school librarian is also stimulating because of the variety of tasks which have to be carried out. Then there are the subject libraries and information services which provide for highly specialised researchers, and which are attached to research organizations such as the CSIR, HSRC, NUCOR, ARMSCOR, government departments, ISCOR and the AECI. There are also educational libraries attached to universities, colleges and other educational institutions.

MARKETING MANAGEMENT

University: UNISA

UCT offers Marketing as one of the special fields in the B.Bus.Sc. degree. See BUSINESS SCIENCE.

UN and UP offer Marketing as one of the options for the B.Com. degree. See COMMERCE.

DIPLOMA

Diploma in Marketing Management

Admission requirements: A Bachelor's degree or an equivalent qualification.

Duration: At least one year.

VOCATIONAL SERVICE: The tempo of economic development in a country can only be properly maintained if the business world is orientated towards marketing. The rise of marketing as one of the managerial functions is also attributed to a new and more scientific approach to all aspects of selling (marketing).

The acceptance by the business world of the value of increased turnover as a result of effective marketing creates more and more opportunities for employment in various specialised fields such as those of sales, advertising, public liaison, marketing research, commercial art, price determination, distribution, promotion of sales, after-sales service, product development and efficient administration. For graduates who have gradually gained the necessary experience and who possess ambition, insight, initiative, a capacity for work and other essential characteristics, a career in this fields can lead to the highest posts in management. Many business enterprises have adopted the policy of appointing their top men from the ranks of marketing officials.

See also Business Economics under the vocational service of COMMERCE.

MEDICAL LABORATORY SCIENCES

Universities: UNORTH, UW

FIRST DEGREES

Bachelor of Science (Medical Laboratory Sciences): B.Sc.(Med.Lab.Sci.) (UNORTH)

Additional admission requirements: As for the B.Sc. degree. See PURE NATURAL SCIENCES.

Duration: Four years of full-time study.

In order to be registered as a medical laboratory scientist a further one-year Master's degree course is required.

Bachelor of Science in Laboratory Medicine: B.Sc. Lab.Med. (UW)

Additional admission requirements: As for the M.B., B.Ch. degree. See MEDICINE.

Duration: Four years of full-time study.

POSTGRADUATE DEGREES

Master of Science (Medical Laboratory Sciences): M.Sc. (Med.Lab.Sci.) (UNORTH)
Master of Science in Medicine: M.Sc. (Med.) (UW)

Doctor of Philosophy (Medical Laboratory Sciences): Ph.D. (Med.Lab.Sci.) (UNORTH)
Doctor of Philosophy: Ph.D. (UW)

VOCATIONAL SERVICE: Medical scientists are highly trained paramedical personnel who work in laboratories and are concerned with the investigation and diagnosis of disease for either clinical or research purposes. It must be stressed that a medical scientist is not a specialist pathologist who must be medically qualified. A medical scientist works in hospital laboratories or laboratories of medical schools, or in municipal, government or industrial laboratories.

MEDICAL SCIENCE

Universities: UCT, UDW, MEDUNSA, UN, UOFS, US

FIRST DEGREES

Bachelor of Science (Medicine): B.Sc. (Med.) (UCT)

Admission requirements:

(i) A student who has completed the second year of the M.B., Ch.B. curriculum at the University and who has shown above average achievement in the second or subsequent year(s) may be registered for the degree.

(ii) A holder of at least a Matriculation Certificate or a Senior Certificate (Matriculation Exemption) who wishes to major in one of the following areas of radiation medicine: Nuclear Medicine/Radiobiology/Therapeutic Radiography.

Duration: (i) One year.

(ii) Three years.

Bachelor of Medical Science: B.Med.Sc. (UDW)

Additional admission requirements: Passes in Mathematics HG and in Biology HG (or Physical Science HG), or at least 50% SG in the subjects mentioned.

Duration: Four years.

Bachelor of Science (Medical): B.Sc. (Med.) (MEDUNSA)

Additional admission requirements: Passes in Mathematics and a science subject.

Duration: Three years.

Bachelor of Medical Science: B.Sc. (Med.Sci.) (UN)

Additional admission requirements: As for the M.B., Ch.B. degree. See MEDICINE.

Duration: Four years of full-time study. The first three years of the curriculum are as for the degree of M.B., Ch.B.

Bachelor of Medical Science: B.Med.Sc. (UOFS)

Additional admission requirements: A pass in Mathematics HG or at least 50% in Mathematics SG. It is recommended that prospective students take Physical Science and, if possible, Biology as well for the Std 10 examination.

Duration: Three years of full-time study.

Bachelor of Science (Honours) in Medical Science: Hons.B.Sc. in Medical Science (US)

This degree course is offered in eleven different fields to candidates who hold the M.B., Ch.B. degree or a Bachelor's degree with a major subject in the related field concerned.

Duration: One year of full-time study or two years of part-time study.

POSTGRADUATE DEGREES

Bachelor of Science (Medicine) (Honours): B.Sc. (Med.) (Hons.) (UCT)
Honours Bachelor of Medical Science: B.Med.Sc.(Hons.) (UDW)
Bachelor of Science (Medical) (Honours): B.Sc. (Med.) (Hons.) (MEDUNSA)
Baccalaureus in Medical Science Honores: B.Med. Sc.Hons. (UOFS)

Master of Science (Medicine): M.Sc. (Med.) (UCT)
Master of Medical Science: M.Med.Sc. (UDW, UOFS)
Master of Science (Medical): M.Sc. (Med.) (MEDUNSA)
Master of Science (Medical Science): M.Sc. (Med.Sci.) (UN)
Master of Science in Medical Sciences: M.Sc. in Medical Sciences (US)

Doctor of Philosophy: Ph.D. (UCT, UDW, UN)
Doctor of Medical Science: D.Med.Sc. (UDW)
Doctor of Medical Sciences: Ph.D. (MEDUNSA)
Philosophiae Doctor: Ph.D. (UOFS)
Doctor of Science in Medical Sciences: D.Sc. in Medical Sciences (US)

VOCATIONAL SERVICE: See Medical Laboratory Sciences above.

MEDICINE

Universities: UCT, MEDUNSA, UN (Non-Whites only), UOFS, UP, US, UW

FIRST DEGREES

Bachelor of Medicine and Bachelor of Surgery: M.B., Ch.B. (UCT, MEDUNSA, UN, UOFS, UP, US)

or M.B., B.Ch. (UW)

Additional admission requirements:

UCT: Passes in Mathematics HG and in Physical Science HG, or at least 50% SG in the subjects mentioned. Candidates must have a B aggregate or equivalent.

MEDUNSA: A pass in Mathematics. The following subject combinations passed at a recognised university are acceptable for admission to M.B., Ch.B. II:

- Physics I, Chemistry I, Biology (Biological Science) I

or

- Physics I, Chemistry I, Botany (minimum one semester), Zoology (minimum one semester).

UN: Passes in Mathematics HG, Biology HG, Physical Science HG and English HG; or a sufficiently high standard in the first year at another university or institution.

UOFS: A pass in Mathematics SG. Prospective students are advised to offer Physical Science, and, if possible, Biology as well for the Std 10 examination.

UP: Passes of at least 40% in Mathematics HG and in Physical Science HG or at least 50% SG in these subjects.

US: A pass in Mathematics. Prospective students are strongly advised to offer Physical Science and/or Biology and/or Physiology for the Std 10 examination.

UW: A pass in Mathematics HG or at least 60% in Mathematics SG and a pass on the Higher Grade in one of the following subjects if Mathematics has been passed on the Higher Grade or two of the following subjects if Mathematics has been passed on the Standard Grade: African Language, Biology, French, Geography, German, Hebrew, History, Latin, Physical Science, Physiology.

Duration: Six years of full-time study. The sixth year at most of the universities is a student-intern year.

Undergraduates must register with the South African Medical and Dental Council as medical students at the beginning of the first year of study for the degree.

After obtaining the degree, candidates are required to serve one year's internship in a recognised and approved institution before they can be registered by the South African Medical and Dental Council as medical practitioners.

POSTGRADUATE DEGREES

Master of Medicine: M.Med. (All the above-mentioned universities)

Admission requirements: .The degree of M.B., Ch.B. or equivalent must have been held for at least two years. Candidates must have been registered as medical practitioners for at least one year.

Duration: 3, 4 or 5 years according to the requirements of the department concerned. The degree is offered as follows in the various branches by the universities mentioned:

Administrative Medicine: UN

Anaesthesia: UW

Anaesthesiology: MEDUNSA, UOFS, UP, US

Anaesthetics: UCT, UN

Cardio-Thoracic Surgery: UOFS, UW

Clinical Pharmacology and Therapeutics: UN

Community Health: UCT, MEDUNSA, UN, UP, US, UW

Dermatology: All the universities

Forensic Medicine: MEDUNSA, UOFS, UP

Geriatrics: MEDUNSA, UP

Internal Medicine: MEDUNSA, UOFS, UP, US, UW
    Endorsement: Military - UP
                 Onchochemotherapy - UP

Medical Administration: MEDUNSA

Medicine: UCT, UN

Neurology: MEDUNSA, UOFS, UP, US, UW

Neurosurgery: UCT, MEDUNSA, UOFS, UP, US, UW

Nuclear Medicine: UCT, UW

Obstetrics and Gynaecology: All the universities

Onchotherapy: UOFS

Ophthalmology: All the universities
    Endorsement: Military - UP

Orthopaedics: UCT, MEDUNSA, UOFS, UP, US

Orthopaedic Surgery: UN, UW

Otorhinolaryngology: All the universities
    Endorsement: Military - UP

Paediatrics: UCT, UOFS, UP, US, UW
    Endorsement: Onchochemotherapy - UP

Paediatrics and Child Health: MEDUNSA, UN

Pathology: UN

Pathology (Anatomical): All the universities

Pathology (Chemical): All the universities

Pathology (Clinical): All the universities except UN

Pathology (Forensic): UCT, UN, US, UW

Pathology (Haematological): All the universities

Pathology (Microbiology): All the universities

Physical Medicine: MEDUNSA, UP

Plastic and Reconstructive Surgery: UCT, MEDUNSA, US, UW

Plastic Surgery: UOFS, UP

Primary Care: UN

Psychiatry: All the universities

Radiology: UCT, UN

Radiodiagnosis/Diagnostic Radiology: MEDUNSA, UOFS, UP, US, UW

Radiotherapy/Therapeutic Radiology: UCT, MEDUNSA, UP, US, UW

Radiotherapy and Oncology: UN

Surgery: All the universities

Thoracic Surgery: UCT, MEDUNSA, UP, US

Urology: All the universities

Master of Community Health: M.Med. (C.H.) (UOFS)
Master of Family Medicine: M.Prax.Med. (MEDUNSA, UN) or M.Fam.Med. (UOFS, US)
Master of Family Doctor Practice: M.Prax.Med. (UP)
Master of Medical Pharmacology: M.Pharm.Med. (UN, UP)
Master of Military Medicine: M.Mil.Med. (UP)
Master of Orthopaedic Surgery: Ch.M.(Orth) (UW)
Master of Surgery: Ch.M. (UCT)

Doctor of Medicine: M.D. (UCT, MEDUNSA, UN, UP, US) or D.M. (UOFS)
Doctor of Philosophy: Ph.D. (UCT, MEDUNSA, UN, UW)
Philosophiae Doctor: Ph.D. (UOFS)
Doctor Scientiae: D.Sc. (UOFS)
Doctor of Philosophy (Medicine): Ph.D.(Med.) (US)
Doctor of Science (Medicine): D.Sc.(Med.) (US)
Doctor of Philosophy in Medicine: Ph.D. (Med.) (UW)
Doctor of Science in Medicine: D.Sc. (Med.) (UW)

POSTGRADUATE DIPLOMAS

Diploma in Cardiac Surgery (UCT)
Diploma in Community Health (UP, US)
Diploma in Community Medicine (UOFS)
Diploma in Health Administration (UOFS, UP)
Diploma in Industrial Health (UP)
Diploma in Industrial Medicine (MEDUNSA, UOFS)
Diploma in Maternal and Child Health (UN)
Diploma in Medical Administration (MEDUNSA)

Diploma in Medical Physics (post.M.Sc. in Physics) (MEDUNSA, UP)
Diploma in Occupational Health (UW)
Diploma in Occupational Medicine (US)
Diploma in Oncochemotherapy (US)
Diploma in Public Health (MEDUNSA, UW)
Diploma in Tropical Health (UP)
Diploma in Tropical Medicine and Hygiene (MEDUNSA, UW)

VOCATIONAL SERVICE: A doctor may work as a general practitioner on his own or in partnership with one or more colleagues in a private practice. In this case his work will mainly consist in diagnosing diseases and treating patients. However, most general practitioners also perform smaller operations. Often a general practitioner may find it necessary to refer a patient to a specialist for diagnosis, operation or treatment.

As a specialist in some field or other, the doctor possibly has more responsibility but then his hours of work are normally fixed and he does no visiting of patients at home. The fields of specialisation offer a wide choice to the doctor. During his period of training as a specialist, the doctor works in a hospital as a clinical assistant.

The wide field of national health in general and the particular work of the specialised state institutions, hospitals and state-controlled laboratories, offer the doctor and the medical researcher extremely interesting and promising opportunities of a career in Government service. Government medical officers work in the Departments of Manpower; Mineral and Energy Affairs; National Education; and Health Services and Welfare. In the latter Department activities are divided into different sections, viz psychiatry, district surgeons, pathological and laboratory services, tuberculosis service, public health administration and hospital services in the self-governing Black states. Many doctors and specialists are also employed by the provincial departments of hospital services.

In South Africa there is room for many more doctors and specialists. Furthermore, medical science, including the care of the diseased, is faced in the eighties with a challenge which tests skill and ingenuity as never before. For every young man and woman in medicine who is prepared to undertake postgraduate study and research there are wonderful opportunities in this occupation.

Also consult Tertiary Training for the various paramedical fields.

METEOROLOGY

University: UP

FIRST DEGREE

Bachelor of Science in Meteorology: B.Sc. (Meteorology)

Additional admission requirements: A pass of at least 40% (E symbol) in Mathematics HG and in Physical Science HG or at least 50% (D symbol) SG in these subjects.

Duration: Four years of full-time study. Students have to undertake compulsory vacation work for periods of three weeks at the Weather Bureau in Pretoria after their second and third years of study.

POSTGRADUATE DEGREES

Bachelor of Science (Honours): B.Sc. (Hons.)

Master of Science: M.Sc.

Doctor of Science: D.Sc.

VOCATIONAL SERVICE: Candidates who wish to make a success of this career should be interested in the weather and atmospheric phenomena and the causal relationship between large-scale natural phenomena. They are employed, *inter alia*, by the Department of Environmental Affairs for service in the Weather Bureau. Here the meteorologist (man or woman) carries out his tasks in well equipped offices. A limited amount of research is undertaken in laboratories, while interesting practical work is done in connection with weather predictions. Meteorologists have the opportunity of choosing from eight specialised fields.

For appointment as an assistant meteorologist an appropriate bachelor's degree is a requirement, while for meteorologists a four-year B.Sc. degree in Meteorology or a B.Sc.(Hons.) degree in Meteorology is required. In-service training in weather observation, the operation of meteorological instruments and weather forecasting take place under the guidance of senior officers in the Weather Bureau.

Also see Agricultural Meteorology.

Also consult *Tertiary Training* for particulars on the National Diploma in Meteorology.

MILITARY SCIENCE

University: US

FIRST DEGREE

Bachelor of Military Science: B.Mil.

Additional admission requirements: For the Science field, students must have passed in Mathematics HG and in Physical Science HG *or* obtained at least a D symbol in Mathematics SG and in Physical Science SG;

for the Commercial field, as well as for a course with Computer Systems and Statistics as subjects, have obtained at least an E symbol in Mathematics SG;

and they must have been accepted by the military selection board for degree study.

Duration: Three years of full-time study. The B.Mil. degree can be followed in one of the following fields: Human Sciences, Natural Sciences, Commercial Sciences.

All the courses are followed at the Military Academy at Saldanha which is the seat of the Faculty of Military Science.

POSTGRADUATE DEGREES

Honours Bachelor of Military Science: B.Mil.Hons.

Master of Military Science: M.Mil.

Doctor of Military Science: D.Mil.
Doctor of Philosophy: Ph.D.

VOCATIONAL SERVICE: A career as an officer in the South African Defence Force is attractive, interesting and varied. Among other things, the functions of the officers' corps include organisation, administration, planning as well as training of the Citizen Force and the Commandos. The large number of posts for officers for which provision is made, offers extremely attractive prospects to any young man. Because of the many fringe benefits to personnel, it is further evident that the Permanent Force caters well for the material, physical and spiritual welfare of its members.

After successful completion of the training course, the candidate officers are appointed with the rank of lieutenant. Provided that they pass the subsequent required promotion courses, they can normally be promoted to the highest ranks. In addition the B.Mil. degree is quite acceptable in civilian life and it can lead to postgraduate study at any South African university.

Also consult Tertiary Training for particulars on officer training outside the university.

MINERAL ECONOMICS

Universities: RAU, RU

FIRST DEGREE

Mineral Economics Honours (RAU)

Admission requirements: A Bachelor's degree with either Geology or Economics as a major subject. Candidates with a degree in mining engineering or in metallurgy may be admitted conditionally, depending on the geological and economical content of their degree course.

Duration: Two semesters of full-time study or four semesters of part-time study.

A Master's and a Doctor's degree are also offered in this field.

RU offers the degree of B.Econ. (Mineral Economics) with Geology and Economics as major subjects. See ECONOMICS.

VOCATIONAL SERVICE: See ECONOMICS.

MINING GEOLOGY*

University: UP

FIRST DEGREE

Bachelor of Science in Mining Geology: B.Sc. (Mining Geology)

Additional admission requirements: As for the B.Sc. (Meteorology) degree. See METEOROLOGY.

Duration: For years of full-time study.

Students are required to undertake at least 20 weeks' vacation work of which 5 weeks must be devoted to Applied Geophysics and at least 10 weeks must be spent in a mine.

*Mining Geology and Engineering Geology are offered in the Faculty of Science as subjects for the B.Sc.(Hons.) degree at the University of the Witwatersrand.

VOCATIONAL SERVICE: These graduates are in the direct employ of the mining sector in the country. The most important employers are consequently the Geological Survey Branch and the Minerals Bureau of the Department of Mineral and Energy Affairs. However, the largest number enter the service of the various mining companies. See also Vocational Service of PURE NATURAL SCIENCES: Geology.

MUSEOLOGY

Universities: UP, US

DIPLOMAS

Diploma in Museology (UP)

Admission requirements: A Bachelor's degree with a pass in one of the following: Afrikaans and Netherlands Cultural History III; History III; History of Art III; Anthropology III; Archaeology III; Botany III; Zoology III; Entomology III; Geology III; or another appropriate subject which in the opinion of the Head of the Department of Afrikaans and Netherlands Cultural History justifies admission to the course.

Duration: One year of full-time study or eighteen months of part-time study.

Postgraduate Professional Diploma in Museology (US)

Admission requirements: A Bachelor's degree with at least one of the following as a major subject: Afrikaans Cultural History, Anthropology, Archaeology, Botany, Classical Culture, Entomology, Fine Arts, Geology, History, Library Science, Zoology.

Duration: One year of part-time study.

VOCATIONAL SERVICE: Persons are appointed as museum service officers in museums of the Department of National Education, the provincial administrations and other authorities. They undertake, *inter alia*, research in the disciplines in which the museum specialises; are responsible for the exhibitions, restoration, preservation and maintenance of the material in its possession; and may also serve as information officers.

There are posts such as director, curator, museum artist. restorator, educational and professional officer and liaison officer in a museum.

MUSIC

Universities: UCT, UDW, UFH, UN, UOFS, UPE, PU for CHE, UP, RU, UNISA, US, UWC, UW, UZ

FIRST DEGREES

Bachelor of Music: B.Mus. (UCT, UN, UOFS, UP, RU, US, UW)

Baccalaureus Musicae: B.Mus. (UDW, UPE)

Additional admission requirements:

UCT: A pass of at least 60% in Music, or a pass in the Grade V theory examination and a pass in the Grade VII practical examination of UNISA or equivalent examinations. There may also be a personal interview or an audition or both.

UDW: A student must satisfy the head of the department in an entrance examination as to his practical and theoretical competence for the course. This will require a minimum practical standard equivalent to either Grade VII of UNISA or at least 60% in Music in the Std 10 examination and a comparable theoretical standard.

UN: A good pass in Music in the Std 10 examination or students must satisfy the Head of the Department of Music that their theoretical experience is equivalent to one of the following:

UNISA ... Harmony Grade V
Royal Schools ... Theory Grade VII
Trinity College ... Theory Grade VI

and their practical experience is equivalent to a pass in the Grade VI examination laid down by UNISA, the Associated Board of the Royal Schools of Music or the Trinity College of Music. An interview and audition are also normally required.

UOFS: Each candidate must satisfy the head of the department that his proficiency in the performing art as well as his musicality and general knowledge of music justifies admission. He must have obtained at least 50% in Music HG or at least 60% in Music SG or attained a standard in the practical subject equivalent to the Grade VII Examination of UNISA. A student must also take a Harmony test.

UPE: A candidate must have obtained the standard indicated below:

- Systematic Music Theory I, Main Instrument I: A standard of 60% in Music SG or 50% in Music HG; or a standard in both theory and practical work regarded as equivalent thereto by the Head of the Music Department.
- Class Music I: A Grade V Certificate of UNISA or equivalent qualifications.

UP: A candidate must satisfy the head of the department at the beginning of his first year that his proficiency in the performing art and his general knowledge of music justifies admission. A practical as well as a written test are arranged. An admission requirement of 50% in Music HG or at least 60% in Music SG, or the Grade VII examinations of UNISA is required as a criterion.

RU: As for the B.A.degree. See ARTS.

US: A pass of at last 50% in Music HG or 60% in Music SG, or a pass in the practical major subject in the Grade VII Examination (UNISA) or other equivalent examination, and a standard in Harmony equivalent to that of Grade VI (UNISA) or a pass in an admission examination, equivalent to the aforementioned examination in the practical major subject and in Harmony.

UW: A pass in Music HG. See also ARTS.

Duration: Four years of full-time study. Each of the universities has one or more curricula, one of which the student must select. They are as follows:

Church Music: UP, US
Composition: UN, UP, US, UW
Ethnomusicology: UN
General: UCT, UDW, RU
General Music: UW
History of Music: UOFS
Jazz Studies: UN
Library and Information Science: UCT
Music Education (not B.Mus. (Ed.)): UCT, UDW, UN, UPE
Musicology: UCT, UN, UPE, UP, US
Orchestra: UOFS
Performance and Individual Teaching: UW
Performance Instrumental: UN
Performers: UPE
Performing Art: UP
Practical: UCT, UOFS, US
Theory of Music: UOFS

Baccalaureus Musicae (Educationis): B.Mus.(Ed.) (UPE)

Bachelor of Music (Education): B.Mus.(Ed.) (UOFS, UP, US, UW)

Additional admission requirements: As for the B.Mus. degree.

Duration: Four years of full-time study.

US offers two possible specialisations, namely (i) Teaching of an Instrument or Vocal Teaching and (ii) Class Music.

Baccalaureus Musicae: B.Mus. (PU for CHE)

Additional admission requirements: A candidate must satisfy the lecturers concerned in a practical test of his proficiency in the peforming art and of his musicality and general knowledge of music, and he must have obtained a standard equivalent to the Advanced Certificate (Grade VII) of UNISA.

Duration: Four years of full-time study. Students select one of three curricula according to the field in which they are interested viz musicological, practical or educational.

Bachelor of Arts in Music: B.A.(Mus.) (UFH)

Additional admission requirements: A student must satisfy the head of the department in an entrance examination as to his practical and theoretical competence in music. This will require a minimal practical standard equivalent to Grade V (UNISA), with comparable theoretical knowledge.

Duration: Three years of full-time study.

Bachelor of Pedagogics: B.Ped. (UFH)

Duration: Four years. No prior knowledge of music is required. This is an integrated professional degree which may be taken with Music as one of the options. See EDUCATION.

Bachelor of Arts (Music): B.A.(Music) (UOFS)

Additional admission requirements: As for the B.Mus.degree.

Duration: Three years of full-time study.

The Universities of Durban-Westville, Natal and Stellenbosch offer the B.A. degree with Music as a major subject.

Rhodes University offers Music as a major subject for the B.A. and the B.Sc. (with Physics) degrees.

PU for CHE offers the B.A. degree with music subjects.

Bachelor of Musicology: B.Mus. (UNISA)

Additional admission requirements: A student must have reached a standard in practical music equivalent to that of Grade VII of the Music Certificate Examination of this University or that required for Music at the Matriculation or equivalent examination. If he wishes to take Harmony and Counterpoint I he must submit proof that he has passed in Music Theory Grade VI or in Music at the matriculation level, or take the special course.

Duration: At least four years.

The degree shall not be awarded until the student has also obtained a Licentiate in an instrument or singing at a practical musical examination of the University.

Baccalaureus Artium in Music: B.A.(Mus.) (UWC)

Bachelor of Arts in Music: B.A.(Mus.) (UZ)

Additional admission requirements:

UWC: Candidates should hold the Grade VI Certificate (theoretical) and Grade V Certificate (practical) of UNISA or its equivalent, otherwise they have to do an entrance examination of the required standard in the principal practical subject and in theoretical work.

UZ: A candidate must have obtained Grade V (Theory) of UNISA or a qualification approved by the Head of the Department of Music and the Dean of the Faculty of Arts.

Duration: Three years.

POSTGRADUATE DEGREES

The following B.A.Hons. courses are offered at UN:

- Combined Honours course in Music and Social Anthropology
- Combined Honours course in Music and Speech and Drama.

Bachelor of Music (Honours): B.Mus.(Hons.) (UCT)
Honoris Baccalaureus Musicae: B.Mus.(Hons.) (UDW)
Bachelor of Arts (Honours)(Music Education): B.A.Hons. (Music Education) (UN)
Bachelor of Arts (Honours)(Ethnomusicology): B.A.Hons. (Ethnomusicology) (UN)
Bachelor of Arts (Honours)(Musicology): B.A.Hons. (Musicology) (UN)
Baccalaureus Artium Honores (Musicology): B.A.Hons. (Musicology) (UOFS)
Baccalaureus Musicae Honores: B.Mus.Hons. (UOFS)
Honneurs Baccalaureus Musicae: Honns. B.Mus. (PU for CHE)
Honours Bachelor of Music: B.Mus.(Hons.) (UP) or Hons. B.Mus. (US)
Honours Bachelor of Musicology: Hons. B.Mus. (UNISA)
Honours Bachelor of Arts: Hons. B.A. (UZ)

Master of Music: M.Mus. (UCT, UN, UP, RU, US, UW)
Magister Musicae: M.Mus. (UOFS, UDW, UPE, PU for CHE)
Master of Musicology: M.Mus. (UNISA)
Master of Arts in Musicology: M.A.(Musicology) (UOFS)
Master of Arts: M.A. (UN, UZ)
Master of Philosophy: M.Phil. (UCT)

Doctor of Music: D.Mus. (UCT, UN, UP, RU, US, UW)
Doctor Musicae: D.Mus. (UOFS, UDW, UPE, PU for CHE)
Doctor of Musicology: D.Mus. (UNISA)
Doctor of Philosophy: Ph.D. (UCT, UN, RU)
Doctor of Philosophy in Musicology: D.Phil.(Musicology) (UOFS)
Doctor of Literature: D.Litt. (UN, UZ)

DIPLOMAS

UCT

Graduate Diploma in Music in Performance

Admission requirements: A.B.Mus. degree.

Duration: Two years

Advanced Diploma in Remedial Music

Admission requirements: A Bachelor's degree or a diploma with sufficient musical background (Practical Grade VIII or its equivalent) or a teaching qualification and at least two years' acceptable teaching experience.

Duration: Two years

Performer's Diploma in Music: P.D.M.

Performer's Diploma in Opera: P.D.O.

Teacher's Licentiate Diploma in Music: T.L.D.

Admission requirements: At least a Senior Certificate. Additional requirements are similar to those for the B.Mus.

Duration: The minimum period of the T.L.D. and the P.D.O. is four years and that of the P.D.M. is three years.

Diploma in Ballet

Admission requirements: A candidate must hold a Senior Certificate or equivalent; have passed the Elementary Examination in Ballet for the Royal Academy of Dancing or Cecchetti or an equivalent qualification; and satisfy the Director of the School of Ballet of his/her ability to profit from the instruction.

Duration: Three years

A student who does not hold a Senior Certificate or equivalent may also be admitted, but he/she will receive the Certificate in Ballet.

UN

Performer's Diploma

Admission requirements: As for the B.Mus. degree except that for the practical standard the equivalent of at least Grade VII of the specified examining boards is required.

Duration: Three years.

UOFS

Church Organist's Diploma: C.O.D.

Admission requirements: A B.Mus., B.Mus.(Ed.), B.A.Mus. or B.A.(Ed.)Mus
or
a Matriculation Certificate or a Senior Certificate (Matriculation Exemption). Additional requirements are the same as for the B.Mus. degree.

Duration: Two years. Students who hold a degree in Music may complete the course in one year.

UPE

Diploma in Orchestral Playing

Admission requirements: B.Mus. degree or the Diploma in Musical Education. A candidate must satisfy the Head of the Department of Music that he has attained a sufficient standard in an approved musical instrument to attend the course with profit.

Duration: One year of full-time study.

Soloist's Diploma in Music

Admission requirements: As for the Diploma in Orchestral Playing.

Duration: Two years of full-time study.

Diploma in Musical Education

Admission requirements: A Senior Certificate. Additional requirements are similar to those for the B.Mus. degree.

Duration: Three years of full-time study.

PU for CHE

Diploma for Church Organists

Admission requirements: A Senior Certificate and the certificate for the Advanced piano and organ examination of UNISA or an equivalent standard.

Duration: Three years of full-time study. This Diploma may be taken concurrently with the course for the B.Mus. degree.

Diploma in Musical Performance

Admission requirements: A Senior Certificate. A student must satisfy the head of the Department of Music that his proficiency justifies admission.

Duration: One year. The examination consists of the recital of a complete concert programme.

Potchefstroom University Teacher's Licentiate in Music: See EDUCATION.

UP

Diploma in Music (Individual Teaching)

Admission requirements: A Senior Certificate. Additional requirements are similar to those for the B.Mus. degree.

Duration: Three years of full-time study.

A candidate for the degree of B.Mus. (Performing Art) or B.Mus. (Church Music) may enrol for this Diploma and will receive the diploma together with the degree.

Diploma in Music (Church Music)

Admission requirements: As for the above-mentioned Diploma.

Duration: Three years of full-time study. This Diploma may be taken concurrently with the B.Mus. degree.

RU

Rhodes University Licentiate Diploma in Music: R.U.L.M.

Admission requirements: A Senior Certificate, or the Board of the Faculty must be satisfied as to the candidate's suitability to take the course. The latter is considered only on the grounds of mature age and/or exceptional ability.

Duration: Three years of full-time study. The Diploma may be awarded as a diploma for performers, or for teachers, or for choirmasters, or for church organists.

Certificate in Choral Work

Admission requirements: A student must have been admitted as a candidate for another degree, diploma or certificate of the University, other than the degree of B.Mus. or diploma in music.

Duration: Two years.

US

Performer's Licentiate in Music

Admission requirements: A Senior Certificate with an average of 50 %. Students must give evidence in an entrance examination of sufficient ability as performers. The minimum standard required is equivalent to the Grade VIII Examination of UNISA. Students must also give evidence in an entrance examination of sufficient knowledge of Harmony to be able to take the course. Exemption from this examination may be granted to students who obtained a pass in Music of at least 60 % in the Std. 10 examination, or who have passed an examination in Harmony equivalent to the Grade VI Examination of UNISA.

Duration: Three years.

Performer's Higher Licentiate in Music

Admission requirements: The degree of B.Mus. or the B.A. degree with Music as one of the major subjects, or the Higher Diploma in Education (Secondary - Music), or the Teacher's Licentiate in Music, or the Performer's Licentiate in Music, or another qualification which the Senate regards as adequate.

Students must give evidence in an entrance examination of sufficient ability as performers.

Duration: One year.

Teacher's Licentiate in Music

Admission requirements: A Senior Certificate. Additional requirements are similar to those for the B.Mus. degree. See EDUCATION.

Duration: Three years.

UWC

Diploma in Music Teaching: D.M.T.

Admission requirements: A Senior Certificate. Canidates should hold the Grade VI Certificate (practical and theoretical) UNISA or any other equivalent qualification, otherwise they are expected to do an entrance examination of the required standard in the principal practical subject and in theoretical work.

Duration: Three years.

UW

Licentiate in Music: L.M.

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption). A candidate must satisfy the Senate by means of an initial test of his ability as a musical performer.

Duration: Three years of full-time study. The licentiate may be awarded in any of the following branches: Opera, Orchestral Playing, Performance and Teaching.

Performer's Diploma in Music: P.Dip.Mus.

Admission requirements: Diploma in Music, or a Licentiate in Music, or a B.Mus. degree, or a teacher's or performer's diploma or licentiate in music from a recognised institution and four years' experience in education or in public performance.

Duration: One year of full-time study or two years of part-time study.

See EDUCATION for specialised courses in the teaching of Music.

VOCATIONAL SERVICE: Musical study at university includes practical as well as theoretical subjects. Practical study consists of study of the main instrument as well as a second instrument which must also be studied. Musical instruments include the piano, organ, stringed instruments and wind instruments, and then there is also Singing.

Because of the development of the RSA there is a demand for persons trained in music as a profession. There is a wide choice of fields of specialisation for the student who began intensive training in music at an early age, who has a love for it, interest in it and the particular musical perception and aptitude as well as musical talent needed, and who is prepared to devote much time to practising. The most important of the avenues for which a university degree or diploma qualifies a man or woman, is teaching in a studio or a school (primary and secondary), broadcasting, the provincial councils for the performing arts, the press, churches and certain library services.

On the strength of experience, reputation and postgraduate qualifications, competent musicians are continually singled out for various responsible positions, for example at training colleges, universities, conservatoires, symphony orchestras, technikons, etc.

For a person who is not employed by an official institution, there is the opportunity of giving private lessons in almost any place, and to practise his profession during periods suitable to him. A member of an orchestra, for example, may also be a teacher of music.

NATURE CONSERVATION

University: US

FIRST DEGREES

Hons. B.Sc. in Nature Conservation

Admission requirements: A B.Sc. degree with Zoology, Botany or Biology as one of the major subjects, or another approved Bachelor's degree.

Duration: Students must pursue an approved curriculum of advanced study, prescribed individually for each student by the lecturer concerned, for at least one year and pass the examinations.

M.Sc. in Nature Conservation

Admission requirements: The degree of B.Sc. in Forestry or another approved Bachelor's degree or an approved Hons. B.Sc. degree.

Duration: Two years after a Bachelor's degree and one year after an Honours degree.

DOCTOR'S DEGREES

Ph.D. (Nature Conservation)
D.Sc. in Nature Conservation

VOCATIONAL SERVICE: This course has been designed to train students in conservation forestry, i.e. those aspects of forestry which deal with the conservation and management of nature areas, population of wild animals and plants and the provision of opportunities for extensive open-air recreation. For practical as well as theoretical reasons the care of the Forest Science curriculum has been retained and conservation has been integrated in the course.

Graduates are equipped to work in both conservation and conventional production forestry and are eligible for appointment by the Directorate of Forestry in the normal way. Careers in other government organisations concerned with conservation, e.g. the National Parks Board, are also possible while the private sector offers a limited field of employment.

Also consult Tertiary Training for particulars on the National Diploma in Nature Conservation.

NURSING

Universities: All the universities except UDW, RU and VISTA.

FIRST DEGREES

Bachelor of Science (Nursing): B.Sc. (Nurs.) (UCT)

Additional admission requirements: Passes in Mathematics HG and in Physical Science HG or at least 50 % SG in the subjects mentioned.

Every candidate must submit a certificate of medical fitness and be at least 17 years of age.

Successful applicants will assume full-time duty as student nurses at the Groote Schuur Hospital for a probationary period of two months commencing in January. At the end of the probation period the final selection will be made for admission.

Duration: Four years. Practical nursing experience is carried out in co-operation with nurses and other staff of the Groote Schuur Hospital.

Baccalaureus Curationis: B.Cur. (UFH, UPE, UWC)

Bachelor of Nursing Science and Art: B.Cur. (MEDUNSA)

Bachelor of Nursing: B.Cur. (UP, RAU, UZ)

Additional admission requirements: Proof of enrolment as a student nurse at a training hospital approved by the South African Nursing Council.

UFH: The training of nurses is done in conjunction with the Ciskei Department of Health, Welfare and Pensions, at the Cecilia Makiwane Hospital.

MEDUNSA: A pass in Mathematics. Additional science subjects will be a recommendation. Studenst will hold a trainee post as student nurse at Ga-Rankuwa Hospital for the duration of the course.

UP, RAU: Mathematics or Physical Science at matriculation level will be a strong recommendation.

UWC: Only a limited number of candidates will be admitted. Applications must reach the Chief Nursing Service Manager, Tygerberg Hospital, Parowvallei 7503, on or before 31 October of the preceding year. During the years of study the student nurse shall remain on the establishment of the Tygerberg Hospital as a student nurse.

Duration: Four and a half years.

Baccalaureus Artium (Curationis): B.A. Cur. (UFH)

Additional admission requirements: As for the B.Cur. degree.

Duration: Three years of full-time study or four years of part-time study.

Bachelor of Social Science (qualified as a nurse): B.Soc.Sc. (UN)

Baccalaureus Artium et Scientiae (Nursing): B.Art. et Scien. (Nursing) (PU for CHE)

Bachelor of Science in Nursing: B.Sc. (Nursing) (UW)

Additional admission requirements: Proof of enrolment as a student nurse at a training hospital, approved by the South African Nursing Council, where all practical training will be undertaken for the duration of the course.

PU for CHE: Preference will be given to candidates who have passed Mathematics and/or Physical Science and/or Biology as Std. 10 subjects. Applicants are selected.

UW: As for the M.B., B.Ch. degree. See MEDICINE.

Duration: Four years.

After completion of the degree course, students of PU for CHE may be trained in Psychiatric Nursing and Practical Work for a further semester.

After completion of the degree course, students of UW have to take an additional course extending over six months of study, in Psychiatric Nursing.

Baccalaureus Societatis Scientiae in Nursing: B.Soc.Sc. (Nursing) (UOFS)

Additional admission requirements: Proof of enrolment at an approved training hospital.

Duration: Three years. A student who holds this degree may only be registered as a nurse with the SA Nursing Council after obtaining the degree of B.Soc.Hons. (Nursing). The course for the Honours degree extends over three semesters of full-time study.

Bachelor of Nursing: B. Nursing (US)

Additional admission requirements: Only a limited number of students are admitted to the course each year. Students are selected in September of the preceding year. Applications must reach the Registrar before 30 June.

Duration: A student remains on the establishment of the Tygerberg Hospital as a student nurse for the five years of the degree course. Application must also be made to the Superintendent of the Tygerberg Hospital.

POST-REGISTRATION DEGREES

Bachelor of Arts in Nursing Science: B.A.(Cur.) (UNISA)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) and proof of registration with the SA Nursing Council as:

(i) a general nurse and as a midwife in the case of a female student who wishes to register for Curriculum A, B, D or F; or

(ii) as a general nurse, as a midwife and as a community health nurse in the case of a student who wishes to register for Curriculum C; or

(iii) as a general nurse in the case of a female student who wishes to register for Curriculum E; or

(iv) a nurse or psychiatric nurse in the case of a male student, irrespective of the curriculum for which he wishes to register.

Duration: At least three years. A student selects one of the following six curricula: (The major subjects are given in each case.)

A. Community Health Nursing Science and Nursing Administration.
B. Community Health Nursing Science and Nursing Education.
C. Nursing Administration and Nursing Education.
D. Community Health Nursing Science and Nursing Ethos and Professional Practice.
E. Nursing Administation and Nursing Ethos and Professional Practice.
F. Nursing Education and Nursing Ethos and Professional Practice.

Bachelor of Nursing Education and Nursing Administration: B.Cur. I et A. (MEDUNSA)
Baccalaureus Curationis (Instructionis et Administrationis): B.Cur.(I. et A.) (UNORTH)
Baccalaureus Curationis (Institutionis et Administrationis): B.Cur.(I. et A.) (UPE)
Bachelor of Nursing (Teaching and Administration): B.Cur. (I. et A.) (UP)
Bachelor of Nursing Education and Administration: B.Cur. (Ed. et Adm.) RAU or B.Cur. (E. et A) (UZ)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption) and proof of registration as a nurse with the SA Nursing Council.

Additional requirements:

UNORTH: Proof of registration as a general nurse and midwife, or a general nurse/male nurse and psychiatric nurse/male nurse; and at least two years experience as a registered nurse/male nurse in hospital or extra-institutional health services. Applicants will be selected on merit. Mathematics and/or Physical Science/General Science will be a recommendation.

UPE: A female candidate who wishes to enrol for the courses in Community Health Nursing must also be registered as a midwife, or in the case of a male student, as a general nurse; and at least two years' experience in clinical nursing on a full-time basis.

UP, RAU: Candidates who wish to take Community Nursing must also be registered as a midwife, or as a general nurse and psychiatric nurse.

Duration: Three years of full-time study or four years of part-time study. UNORTH and UZ offer the course on a full-time basis only.

POSTGRADUATE DEGREES

Bachelor of Social Science (Honours): B.Soc.Sc.Hons. (UN)
Baccalaureus Societatis Scientiae Honores in Nursing: B.Soc.Sc.Hons. (Nursing) (UOFS)
Baccalaureus Curationis Honores: B.Cur.Hons.. (UPE)

Bachelor of Nursing (Honours): B.Cur.(Hons.) (UP)
Honours Bachelor of Nursing: B.Nursing Hons. (US)
Honours Bachelor of Arts in Nursing Science: Hons.B.A. (Cur.) (UNISA)
Honours Baccalaureus Curationis: B.Cur.Hons. (UWC)

Master of Science (Nursing): M.Sc. (Nurs.) (UCT)
Master of Social Science: M.Soc.Sc. (UN)
Magister Societatis Scientiae in Nursing: M.Soc.Sc. (Nursing) (UOFS)
Magister Curationis: M.Cur. (UFH, UPE, UWC)
Magister Artium et Scientiae (Nursing): M.Art. et Scien. (Nursing) (PU for CHE)
Magister of Nursing: M.Cur. (UP, RAU) or M. Nursing (US)
Master of Arts in Nursing Science: M.A. (Cur.) (UNISA)
Master of Science in Nursing: M.Sc. (Nursing) (UW)
Magister Philosophiae: M.Phil. (RAU)

Doctor of Philosophy: Ph.D. (UCT, UN, UW)
Doctor of Social Science: D.Soc.Sc. (UN)
Doctor Societatis Scientiae in Nursing: D.Soc.Sc. (Nursing) (UOFS)
Doctor Curationis: D.Cur. (UPE, UWC)
Doctor Philosophiae: D.Phil. (PU for CHE, RAU)
Doctor of Nursing: D.Cur. (UP, RAU)
Doctor of Literature and Philosophy: D.Litt. et Phil. (UNISA)
Doctor of Nursing: D.Nursing (US)

DIPLOMAS

Diploma in Advanced General Nursing Science: Dip.A.G.N. (UPE)

erience in general nursing.

Duration: At least two years.

Diploma in Advanced Nursing Science (UNISA)

Admission requirements: A Senior Certificate and proof of registration as a general nurse/male nurse. A female student who takes Community Health Nursing Science II and/or Nursing Education II must be registered as a general nurse and as a midwife.

Duration: At least two years.

Diploma in Advanced Clinical Nursing (US)

Admission requirements: A Senior Certificate; proof of registration as a general nurse and as a midwife or a psychiatric nurse; two years' experience as a registered nurse; and pass an admission examination which must be taken during September before commencement of the course.

Duration: 18 months of full-time study and practical training in hospital divisions.

Diploma in Community Nursing Science (UPE)

Diploma in Community Health Nursing: D.C.H.N. (UZ)

Admission requirements:

UPE: A Senior Certificate; proof of registration as a general nurse and as a midwife, or in the case of a male candidate, as a general nurse; and at least 60 marks in the admission examination.

UZ: A Matriculation Certificate or a Senior Certificate (Matriculation Exemption); proof of registration with the SA Nursing Council as a general nurse and as a midwife.

Duration: One year of full-time study.

Post-Basic Diplomas in Nursing (UOFS)

The following diplomas may be awarded:

- Post-Basic Diploma in Community Health Care
- Post-Basic Diploma in Nursing Administration
- Post-Basic Diploma in Nursing Education
- Post-Basic Diploma in Onchological Nursing Science

Admission requirements: A Senior Certificate and proof of registration as a general nurse or a psychiatric nurse and two years' appropriate experience.

Duration: One year of full-time study.

Diploma in Industrial Nursing (PU for CHE)

Admission requirements: A Senior Certificate and a degree or a diploma in Nursing. Proof of registration with the SA Nursing Council as a general nurse and midwife, or as a general nurse and psychiatric nurse, or as a general nurse and any diploma registered with the Council.

Duration: One year. The course which comprises eight weeks of full-time study, is offered for 14 days at a time during February, May, August and October.

Diploma in Nursing Administration (MEDUNSA, UNORTH, UPE, UP, US, UW, UZ)

Admission requirements: A Senior Certificate and proof of registration with the SA Nursing Council as a general nurse or a psychiatric nurse. Some universities also require registration as a midwife and at least two years' experience as a registered nurse in a hospital.

Duration: One or two years of full-time study.

Diploma in Nursing Administration and Community Health (UFH)

Diploma in Nursing Administration and Community Nursing Science (UPE, UWC)

Diploma in Nursing Administration and Community Health Nursing (RAU)

Admission requirements:

UFH: A Matriculation Certificate or a Senior Certificate (Matriculation Exemption) and proof of registration with the SA Nursing Council as a general nurse.

UPE: A Senior Certificate and proof of registration as a general nurse and as a midwife or, in the case of males, as a general nurse plus any other post-basic registration; and at least two years' experience in clinical nursing after registration.

RAU: A Senior Certificate and proof of registration as a generel nurse.

UWC: A Senior Certificate; a certificate of current registration as a general nurse or psychiatric nurse with the SA Nursing Council; proof of current membership with the SA Nursing Association; and five years' approved experience as a registered nurse.

Duration: Full-time study of three years at UFH; two years at UPE; three semesters at RAU and 18 months at UWC.

Diploma in Nursing Education (MEDUNSA, UN, UNORTH, UPE, PU for CHE, UP, RAU, US, UW, UZ)

Admission requirements: As for the Diploma in Nursing Administration. Some universities require registration with the SA Nursing Council in the field of the subject didactics.

Duration: One and a half or two years of full-time study. One year of full-time study after a degree in Nursing at PU for CHE, UP, RAU and UW.

Diploma in Nursing Education and Community Nursing Science (UPE, UWC)

Admission requirements:

UPE: As for the Diploma in Nursing Administration and Community Nursing Science.

UWC: A Senior Certificate; a certificate of current registration with the SA Nursing Council as a general nurse or a psychiatric nurse; and two years of experience as a registered nurse in the relevant branch of nursing.

Duration: Two years of full-time study.

Diploma in Oncotherapy Nursing (UP)

Admission requirements: Proof of registration as a general nurse/male nurse and an approved degree in Nursing or the Diploma in General Nursing.

Duration: One academic year.

Diploma in Operating Theatre Technique (UWC)

Admission requirements: A Senior Certificate; a certificate of current registration with the SA Nursing Council as a general nurse; proof of current SA Nursing Association membership; and at least six months' clinical experience in an approved operating theatre.

Duration: 18 months of full-time study. The course commences on 1 January.

VOCATIONAL SERVICE: Nursing is concerned with the treatment and care of persons who are suffering or recovering from a physical or mental illness. This caring covers the whole lifespan of a person and must thus be preventive, promotive, healing and rehabilitative. It must include individuals, families, groups and communities. The young, prospective nurse has the opportunity of becoming acqainted with all aspects of the occupation; when she becomes a registered nurse, the acquired knowledge is fully utilised and extended so that she renders a service to her fellow human beings.

Although the basic needs of patients have remained unchanged, nursing has today become a highly specialised occupation as a result of the phenomenal scientific progress in the field of medicine. The duties and responsibilities of the registered nurse require an extremely high level of training and skill. The nurse must also be able to listen and to attempt to understand the troubled mind, to inspire the patient who has lost hope and to lead him to acceptance and resignation if there is no hope of recovery. She must thus have an intense desire to assist and serve her fellow men. This requires intelligence, patience, tact, unselfishness and a sympathetic attitude, but she must still be emotionally stable and able to act firmly if necessary.

Registered nurses are in demand throughout the whole country. Nurses generally work in hospitals but there are many other fields of employment. Provincial and other hospitals, education departments, government departments such as the South African Defence Force, municipalities, medical practitioners and specialists, industrial organisations, etc., all employ nurses.

Further information on training and aspects such as salaries, conditions of service, promotion, etc. can be obtained on request from: The Executive Director, SA Nursing Association, Private Bag X105, Pretoria 0001.

Also consult Tertiary Training for particulars on the training of nurses outside the universities.

NUTRITION

Universities: UNORTH, US

FIRST DEGREES

Bachelor of Nutrition: B.Nutr. (UNORTH)
Bachelor of Nutrition: B.Nutrition (US)

Additional admission requirements:

UNORTH: As for the B.Sc. degree. See PURE NATURAL SCIENCES.

US: A pass in Mathematics. Students are strongly recommended to take Physical Science and/or Biology and/or Physiology for the Std. 10 examination.

Duration: Four years of full-time study.

Master of Nutrition: M.Nutrition (US)

Admission requirements: Hons.B.Sc. (Dietetics) or B.Sc. with Dietetics plus the Diploma in Hospital Dietetics or the M.B., Ch.B. degree or other adequate qualifying standard.

Duration: One year after an Honours degrees, otherwise two years.

VOCATIONAL SERVICE: A unique challenge faces nutritionists in South Africa as a result of the high rate of nutritionally-related diseases prevalent among all population groups. In the lower income groups, a nutritionally inadequate food intake will lead to diseases such as kwashiorkor and marasmus or emaciation. In contrast with westernization and improved financial and social status, a large increase in the incidence of diseases such as obesity, coronary heart disease and diabetes has been recorded.

Nutritionists, doctors and dieticians share the responsibility of working towards the prevention of malnutrititon in South Africa. There is an urgent need for nutritionists as members of the medical team to participate in the therapeutic treatment of the patient; to investigate the causes, metabolism and progression of nutritional diseases and to lower the incidence of these diseases by teaching and training the public.

Nutritional Science is defined as the study of food and its nutrients; the action, interaction and balance of these nutrients in the maintenance of health, the processes of food ingestion, digestion, absorption, nutrient utilization and excretion. An in-depth study of Nutrition is made possible by a comprehensive and detailed knowledge of, inter alia, Physiology, Biochemistry and Microbiology.

There is a wide range of career opportunities for nutritionists:

- Therapeutic specialisation in a hospital to care for patients with problems such as diabetes, coronary heart disease, surgery and renal dialysis.
- Extension programmes for prevention of nutritional diseases at hospital clinics, day hospitals and divisional council clinics
- Research in private industry and government institutions.
- Food industries concerned with the development of new products such as baby and special diet foods.
- Private practice where a specialised service may be rendered to patients and the medical profession.

OCCUPATIONAL THERAPY

Universities: UCT, UDW, MEDUNSA, UOFS, UP, US, UWC, UW

FIRST DEGREES

Bachelor of Science (Occupational Therapy): B.Sc.(Occ.Ther.) (UCT)

Bachelor of Occupational Therapy (UDW)

Bachelor of Occupational Therapy: B.Occ.Ther. (MEDUNSA)

Bachelor of Occupational Therapy: B.Occupational Therapy (UOFS, UP, US)

Bachelor of Science in Occupational Therapy: B.Sc.(O.T.) (UW)

Baccalaureus Scientiae in Occupational Therapy: B.Sc. (Occ.Ther.) (UWC)

Additional admission requirements:

UCT: A pass in Mathematics HG and in Physical Science HG or at least 50 % SG in these subjects.

UDW: A pass in Mathematics HG or in a science subject HG or at least 50 % SG in these subjects

MEDUNSA: A pass in Mathematics or in Physical Science.

UP: A pass of at least 40 % in either Physical Science HG or in Biology HG or at least 50 % SG in these subjects.

US: A pass in Mathematics HG or SG. Prospective students are strongly advised to take Physical Science and/or Biology and/or Physiology for the Std 10 examination. Enrolment at the University of Stellenbosch is limited and students are selected during September of the preceding year. Applications for admission to the course should reach the Registrar before 30 June.

UW: As for the M.B., B.Ch. degree. See MEDICINE.

Duration: Four years of full-time study.

POSTGRADUATE DEGREES

Bachelor of Occupational Therapy (Honours): B.Occ. Ther.(Hons.) (MEDUNSA) or B. Occupational Therapy (Hons.) (UP)

Master of Science (Occupational Therapy): M.Sc. (Occ.Ther) (UCT)
Master of Occupational Therapy (UDW)
Master of Occupational Therapy: M.Occ.Ther. (MEDUNSA) or M.Occupational Therapy (UOFS, UP)
Master of Science in Occupational Therapy: M.Sc.(O.T.) (UW)

Doctor of Philosophy: Ph.D. (UCT, UW)
Doctor of Occupational Therapy: Ph.D. (MEDUNSA)
Philosophiae Doctor: Ph.D. (UOFS)
Doctor of Occupational Therapy: D.Occ. Ther. (UP)

DIPLOMAS

Diploma in Advanced Occupational Therapy: D.Adv.O.T. (UW)

Admission requirements: A B.Sc. (O.T.) degree or equivalent degree; registration with the SA Medical and Dental Council; and at least one year's experience as an occupational therapist. In an exceptional case, a person who is registered with the SA Medical and Dental Council as an occupational therapist may be admitted by virtue of his holding a recognised diploma in occupational therapy and who has had at least two years' experience as an occupational therapist in a recognised institution.

Duration: Two academic years of part-time study.

Diploma in Occupational Therapy Education (US)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption); a qualification in Occupational Therapy which is accepted by the SA Medical and Dental Council for registration and approved by the South African Association of Occupational Therapists; and at least two years' uninterrupted experience as an occupational therapist in an approved hospital.

Duration: Two years of full-time study.

VOCATIONAL SERVICE: Occupational therapy is one of the paramedical occupations which can be practised by women as well as men. They are instructed to treat and/or train physically and mentally handicapped persons, to prevent incapacity, to promote adaptation to incapacity, and to improve or preserve function. The treatment is therefore directed towards the patient's life outside the hospital and towards his future, the recovery of his independence, creative ability and particularly his ability to work. As a member of a medical team, under the guidance of a doctor and with the co-operation of other team members, the occupational therapist endeavours to rehabilitate the patient mentally and physically.

Occupational therapists have a choice of employment at, for example, general, psychiatric, orthopaedic and children's hospitals, rehabilitation centres, special schools, homes for the aged, divisions for plastic surgery and private nursing homes. Up to the present not much use has been made in South Africa of private practices, although they also offer worth-while possibilities. The additional qualification (the teacher's diploma in occupational therapy) also enables occupational therapists to give full-time or part-time instruction in the profession.

Occupational therapists are employed, *inter alia*, by the Departments of Health Services and Welfare, and National Education.

All occupational therapists must register with the SA Medical and Dental Council. The South African qualifications are accredited internationally and experience abroad is therefore a possibility.

OPERATIONS RESEARCH

Universities: UCT, UNORTH, PU for CHE, RU, UNISA, US, UW

FIRST DEGREES

Baccalaureus Scientiae with Operations Research: B.Sc. (PU for CHE)

Additional admission requirements: As for the B.Sc. degree.

Duration: Three years of full-time study or four years of extramural study. The course is offered only at the Vaal Triangle Campus.

Bachelor of Science with Operations Research as a major subject: B.Sc. (UNISA)

Additional admission requirements: As for the B.Sc. degree.

Duration: At least three years. The degree must be obtained within ten years of a student's first registration for the degree.

Bachelor of Science (Honours): B.Sc. (Hons.) (UCT)

Honours Bachelor of Commerce: B.Com.Hons. (UNORTH)

Bachelor of Science with Honours (Operations Research): B.Sc.(Hons.) (RU, UW)

B.Sc.Hons. with Operations Analysis as the major field of study (US)

Admission requirements: A Bachelor's degree with at least one of the following subjects as a major subject: Applied Mathematics, Computer Science, Mathematics, Mathematical Statistics or Statistics. US will also admit a candidate who holds a Bachelor's degree in Engineering.

Duration: One year of full-time study or two years of part-time study.

POSTGRADUATE DEGREES

M.Sc. (Operations Analysis) (US)
See also PURE NATURAL SCIENCES.

RU also offers the B.Com.Hons. degree in Operations Research.

VOCATIONAL SERVICE: Operations Research is the science that endeavours to solve problems firstly by formulating a model for the problem that corresponds as closely as possible to the actual situation; secondly, analysing the model and identifying optimal levels of decisions variables; thirdly, trying to apply these models to the original problem. The models at issue here are usually mathematical models and/or statistical models and/or computer models.

Operations researchers are involved inter alia in the following fields:

- Planning in support of management in industry, particularly in respect of financial planning and cost analysis;
- the computer industry, particularly in respect of management information systems;
- in factories, in collaboration with industrial engineers, particularly in order to optimize production;
- university teaching;
- in the defence force, particularly with regard to decision making;
- in research institutions, particularly with regard to basic research or new methods in the subject itself.

See also Vocational Service of PURE NATURAL SCIENCES: Statistics.

OPTOMETRY

Universities: UDW, UNORTH, RAU

FIRST DEGREES

Bachelor of Optometry: B.Optom. (UDW, UNORTH, RAU)

Additional admission requirements:

UDW: Passes in Mathematics HG and in Biology HG or Physical Science HG, or at least 50 % SG in the subjects mentioned.

UNORTH, RAU: As for the B.Sc. degree. See PURE NATURAL SCIENCES.

Duration: Four years of full-time study.

POSTGRADUATE DEGREES

Master of Optometry: M.Optom. (UDW, UNORTH)

Doctor of Optometry: D.Optom. (UDW)

VOCATIONAL SERVICE: Optometry involves sciences such as ophthalmology, chemistry, physics, anatomy, physiology and psychology. The optometrist of today uses specialised techniques and instruments to trace ocular defects and, if necessary, prescribes spectacles or contact lenses as well as possible corrective eye exercises. He assists the entire family in the preservation and care of healthy eyes and his is one of the professions which a community cannot do without. In addition, Optometry is one of the most remunerative professions, particularly when working hours and conditions are also taken into consideration. It is definitely a challenging occupation which provides ample opportunities for research to those interested.

An optometrist can start his own practice or enter into partnership with an established optometrist. His work may cover all aspects of optometry, or he may decide to specialise in a particular field. In this case, he usually enters a group practice to which a number of optometrists are attached. Others find more satisfaction in working in a clinic or hospital, such as a military hospital.

The optometrist described above is not the same as the oculist or eye specialist. The latter is a medical practitioner who undergoes a few years of specialised university training on completion of his normal medical training in order to practise as an oculist and eye surgeon.

ORAL HEALTH/ORAL HYGIENE

Universities: UDW, MEDUNSA, UP, US, UWC, UW

FIRST DEGREES

Bachelor of Oral Health (UDW)

Bachelor of Oral Hygiene: B.Oral Hyg. (MEDUNSA)

Additional admission requirements:

UDW: Passes in Mathematics HG and Biology HG or Physical Science HG, or at least 50 % SG in the subjects mentioned.

MEDUNSA: Passes in Mathematics, Physical Science and Biology.

Duration: Three years of full-time study. Students at UDW are required to do vacation work in approved clinics.

POSTGRADUATE DEGREE

Bachelor of Oral Hygiene (Honours): B.Oral.Hyg. (Hons.) (MEDUNSA)

DIPLOMAS

Diploma in Oral Hygiene (UP, US)

Diploma in Oral Hygiene: Dip.O.H. (UW)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Additional requirements:

UP: Passes in Biology HG or Physical Science HG or both, or at least 50 % SG in the subjects mentioned. Mathematics will be a recommendation. Candidates are selected.

US: Preference will be given to students who have obtained passes on the Standard Grade in the following subjects: Mathematics, Physical Science, Biology and/or Physiology. Students are selected and applications must be submitted before 30 June of the previous year.

UW: Candidates must be physically and mentally fit.

Duration: Two years of full-time study. UW offers the course in association with the Technikon Witwatersrand.

Diploma in Oral Health (UWC)

Admission requirements: A Senior Certificate with a pass of at least 40 % HG or 50 % SG in at least one of the following subjects: Biology, Physical Science or Physiology. A pass in Mathematics will be a recommendation. Candidates will be selected.

Duration: Two years of full-time study.

VOCATIONAL SERVICE: The oral hygienist's functions include the following: Informing the patient on the recognition and removal of plaque; taking X-rays; the cleaning of teeth by hand and by means of ultrasonic apparatus; the local application of fluoride to prevent dental decay, and providing information on the use of systemic fluoride by children and pregnant women.

Oral hygienists employed by the Department of Health Services and Welfare have fully equipped consulting rooms in dental clinics or hospitals providing dental services. They regularly visit schools, créches, old-age homes, etc. to introduce and evaluate preventive programmes. All oral hygienists are required to register with the South African Medical and Dental Council as oral hygienists before practising.

PARKS AND RECREATION ADMINISTRATION

University: US

FIRST DEGREE

Bachelor of Parks and Recreation Administration: B. in Parks and Recreation Administration

Additional admission requirements: A pass in Mathematics SG and a science subject SG. Students are strongly advised to take Physical Science and Biology for the Std 10 examination.

Duration: Four years of full-time study.

POSTGRADUATE DEGREES

Honours B. in Parks and Recreation Administration

Master in Parks and Recreation Administration

VOCATIONAL SERVICE: In recent years there has been an enormous upsurge of interests in parks and recreational facilities and in establishing recreational areas. This has resulted in an urgent need for professionally trained staff. The major subjects give an indication of the vocational service:

- Public Administration: The director of a department of parks and recreation is responsible for a large staff and the administration of funds.
- Horticulture comprises all aspects of the cultivation of plants, as well as landscape architecture.
- Recreation Management and Planning deals with the planning, development and management of recreational facilities and services as well as the social and economic aspects of recreation.

The most important employers are the local governments of the larger towns and cities. This field of study offers an excellent future to the person who enjoys outdoor life and who prefers pleasant working conditions close to nature.

Also consult Tertiary Training for particulars on the National Diploma in Nature Conservation and the National Diploma in Parks and Recreation Management.

PEDOLOGY (SOIL SCIENCE)

University: PU for CHE

FIRST DEGREE

Baccalaureus Scientiae (Pedology): B.Sc.(Ped.)

Admission requirements: The B.Sc. degree with Pedology as one of the major subjects.

Duration: One year.

POSTGRADUATE DEGREES

Magister Scientiae : M.Sc.
Doctor Scientiae : D.Sc.

VOCATIONAL SERVICE: The subject Pedology concerns the study of the genetic, physical, chemical and mechanical properties of soil. This includes the erosion processes of different types of rock under different climatic conditions; soil genesis, i.e. the influence of genetic factors on the formation and distribution of different soil types; soil mapping; soil fertility; soil quality, and soil conservation.

A variety of career opportunities are offered inter alia by the Department of Agriculture and Water Supply, fertilizer companies, co-operatives, and construction and engineering firms.

PERSONNEL GUIDANCE/PERSONNEL MANAGEMENT

UCT offers Personnel Management as one of the special fields for the B.Bus.Sc. degree. See BUSINESS SCIENCE.

UDW, UN and UP offer Personnel Management as one of the options for the B.Com. degree. See COMMERCE.

Universities: UCT, UFH, UOFS, UW

FIRST DEGREES

Bachelor of Arts in Personnel Management: B.A. (Personnel Management) (UFH)

Bachelor of Personnel Guidance: B.P.L. (UOFS)

Additional admission requirements:

UFH: At least an E symbol in Mathematics SG.

UOFS: A pass in Mathematics SG.
Students are selected.

Duration: Three years of full-time study. Students at UOFS are required to do at least one month's vacation work at an approved undertaking during each of the second and third years.

UFH offers Personnel Management as an option for the B.Admin. degree and also for the Diploma in Public Administration. See ADMINISTRATION.

Master in Personnel Management: M.P.M. (UW)

Admission requirements: A degree plus the Higher Diploma in Personnel Management or equivalent postgraduate qualification or an Honours degree in a subject which in the opinion of the Senate is cognate to the subject of Personnel Management.

Duration: One year of full-time study or two years of part-time study and research on an approved subject plus a dissertation.

POSTGRADUATE DEGREES

Bachelor of Arts in Personnel Management (Honours): B.A. (Personnel Management) (Hons.) (UFH)
Bachelor of Personnel Guidance Honores: B.P.L. Hons. (UOFS)

Master of Arts in Personnel Management: M.A. (Personnel Management) (UFH)
Master of Personnel Guidance: M.P.L. (UOFS)

Doctor of Philosophy: Ph.D. (UW)
Doctor of Personnel Guidance: D.P.L. (UOFS)

POSTGRADUATE DIPLOMAS

Graduate Diploma in Human Resource Management: G.R. Dip. H.R.M. (UCT)

Admission requirements: A graduate whose curriculum of his Bachelor's degree is an adequate preparation for the course; or a person who has satisfied the Senate, by means of a prescribed test, the his qualifications are of an equivalent standard.

Duration: One year of full-time study or two years of part-time study.

Higher Diploma in Personnel Management: H.Dip.Pers.Man. (UW)

Admission: A graduate in any faculty, or a non-graduate who holds a professional qualification, or, in exceptional cases the Senate may admit a person whose admission is warranted by virtue of his experience, qualifications and abilities.

Duration: One academic year comprising at least 32 weeks of full-time study, divided into two terms of at least 16 weeks each.

VOCATIONAL SERVICE: Personnel Management is a field in which psychology is applied, and its study field is the human factor in the functioning of organizations. Personnel Management involves inter alia Industrial Psychology, Personnel Psychology and Organizational Psychology.

All organizations whether in the private sector, services or public sector that are large enough to have a personnel division need persons with a qualification in Personnel Management.

See also Vocational Service of COMMERCE: Industrial Psychology

PHARMACY

Universities: UCT, UDW, MEDUNSA, UN, UNORTH, UPE, PU for CHE, UP, RU, US, UWC, UW

FIRST DEGREES

Bachelor of Pharmacy: B.Pharm. (UCT, UDW, MEDUNSA, UNORTH, RU, UW)

Bachelor of Science (Pharmacy): B.Sc. (Pharm.) (UN)

Baccalaureus Pharmaciae: B.Pharm. (UPE, PU for CHE, UP)

Bachelor of Science in Pharmacy: B.Sc. in Pharmacy (US)

Baccalaureus Pharmaceuticae: B.Pharm. (UWC)

Additional admission requirements:

UCT: As for the M.B., Ch.B. degrees. See MEDICINE.

UDW: Passes in Mathematics HG and in Biology HG (or in Physical Science HG), or at least 50 % SG in the subjects mentioned.

MEDUNSA: A pass in Mathematics HG or at least 50 % in Mathematics SG and a pass in at least one of the following subjects on the Higher Grade: Biology, Botany, Chemistry, Physical Science, Physics, Physiology, Zoology.

UN: A pass of at least 40 % in Mathematics HG and a natural science subject HG, or at least 60 % SG in these subjects.

UNORTH: As for the B.Sc. degree. See PURE NATURAL SCIENCES. Students must have obtained at least an F symbol in Mathematics HG or an E symbol in Mathematics SG, and a pass in Biology. A pass in Physical Science will be a strong recommendation.

UPE and PU for CHE: A pass in Mathematics HG or at least 50 % in Mathematics SG and a pass in a science subject, preferably Physical Science.

UP: As for the B.Sc. degree.

RU: At least a D symbol in Mathematics HG and in Physical Science HG or in Biology HG or at least a C symbol SG in these subjects.

US: A pass in Mathematics. Students are strongly recommended to take Physical Science and/or Biology and/or Physiology for the Std. 10 examination.

UWC: As for the B.Sc. degree. See PURE NATURAL SCIENCES.

UW: A pass in Mathematics HG or at least 60 % in Mathematics SG and a pass in at least one of the following subjects on the Higher Grade or at least 60 % on the Standard Grade: Biology, Physical Science, Physiology.

Duration: Four years of full-time study.

These degrees are recognised by the SA Pharmacy Board as registrable qualifications. A candidate must complete one year of practical training after graduation before he may be registered.

Some universities offer the degree course in collaboration with the technikons.

POSTGRADUATE DEGREES

Honoris Baccalaureus Scientiae in Pharmacy: B.Sc. (Pharm.)(Hons.) (UDW)

Honours Bachelor of Science (Pharmacy): B.Sc.Hons. (Pharm.) (UNORTH)
Honneurs Baccalaureus Pharmaciae: Honns.B.Pharm. (PU for CHE)

Master of Pharmacy: M.Pharm. (UDW, MEDUNSA, UNORTH)
Magister Pharmaciae: M.Pharm. (PU for CHE)
Master of Science: M.Sc. (RU)
Magister Pharmaceuticae: M.Pharm. (UWC)

Doctor of Pharmacy: D.Pharm. (UDW, UNORTH)
Doctor Pharmaciae: D.Pharm. (PU for CHE)
Doctor of Philosophy: Ph.D. (RU)
Doctor of Science: D.Sc. (RU)
Doctor Pharmaceuticae: D.Pharm. (UWC)

DIPLOMA

University Diploma in Pharmacology (PU for CHE)

Admission requirements: B.Pharm. degree or the degree of M.B., Ch.B. or an equivalent qualification.

Duration: One year.

VOCATIONAL SERVICE: The profession of pharmacist, which can be practised by men and women, is a very old profession and one that has always been held in great respect since the pharmacist is much more than a person who sells cosmetics, bric-a-brac and pills. A pharmacist is a skilled person with professional training and his expert knowledge is an indispensable addition to the work of doctors and hospitals. In fact, the pharmaceutical profession today forms the co-ordinating link between manufacturer and doctor, doctor and patient, patient and community, and in this way an important part of the health service to the nation is controlled. The occupation is not restricted to the well-known retail chemist who mainly prepares medicine according to the doctor's prescription, and who sells patent medicines or other remedies as well as various kinds of articles.

Other branches of the occupation are, for example:

- The pharmacist employed by a wholesaler or pharmaceutical industry with a view to research into pharmaceutical products, manufacturing and testing of medicines, design of apparatus, control of production and packaging, management of purchases, sales, advertising etc.;
- the hospital pharmacist attached to a hospital and responsible for pharmaceutical and related services;
- the railway pharmacist in the employ of the SA Transport Services;
- a lecturer at a training centre;
- the medical representative who visits medical practitioners and pharmacies to introduce and sell new medicines;
- pharmacists in the service of the Department of Health Services and Welfare where their services are mainly used in four fields, viz hospital pharmacy duties, control of medicines, regional pharmacists and pharmaceutical services.

Postgraduate training remains important, particularly to provide for the needs of the pharmaceutical industry and training centres.

PHYSICAL EDUCATION

Universities: UDW, UFH, UNORTH, UOFS, UPE, PU for CHE, UP, RAU, RU, US, UWC

UNORTH, UPE, PU for CHE, RAU and US offer Physical Education as a major subject for the ordinary B.A. degree (see ARTS); and

UNORTH, PU for CHE and US as a major subject for the B.Sc. degree (see PURE NATURAL SCIENCES).

FIRST DEGREE

Baccalaureus Artium in Physical Education: B.A.(Phys.Ed.) (UDW)

Bachelor of Arts (Physical Education): B.A. (Phys. Educ.) (UOFS)

Bachelor of Arts in Physical Education: B.A. (Phys.Ed.) (UP)

Bachelor of Arts (Physical Education): B.A. (Phys.Ed.) (RU)

Baccalaureus Artium in Physical Education: B.A. (P.E.) (UWC)

Additional admission requirements: As for the B.A. degree. A medical certificate is required.

Duration: Three years of full-time study.

Bachelor of Pedagogics: B.Ped. (UFH)

Admission requirements: As for the B.A. degree.
Duration: Four years of full-time study. This is an integrated professional degree which may be taken with Physical Education as one of the options. See EDUCATION.

Baccalaureus Artium (Educationis) with Physical Education: B.A. (Ed.) with Physical Education (UOFS)

Additional admission requirements: Students must undergo a local medical examination by the Director of Health Services, UOFS, at the beginning of the course.

Duration: Four years of full-time study. There are three curricula, viz Pure Physical Education - Teaching; Physical Education - Teaching of Sports; Physical Education Recreation Science - Teaching.

Baccalaureus Artium (Educationis)(Physical Education): B.A.(Ed.)(Phys.Ed.) (UPE)
Bachelor of Arts (Education)(Physical Education): B.A.(Ed.)(Phys.Ed.) (UP)

Additional admission requirements: As for the B.A. degree. A satisfactory medical certificate must be submitted. Students are selected.

Duration: Four years of full-time study.

POSTGRADUATE DEGREES

Honoris Baccalaureus Artium in Physical Education: B.A.(Phys.Ed.)(Hons.) (UDW)
Baccalaureus Artium Honores (Physical Education): B.A. Hons. (Phys.Educ.) (UOFS)
Baccalaureus Artium (Physical Education) Honores: B.A. (Phys.Ed.) Hons. (UPE)
Bachelor of Arts (Honours) in Physical Education: B.A.(Phys.Ed.)(Hons.) (UP)
Bachelor of Arts with Honours: B.A.(Hons.) (RU)
Hons. B. in Physical Education (US)
Honours Baccalaureus Artium: B.A. Hons. (UWC)

Magister Artium in Physical Education: M.A.(Phys.Ed.) (UDW)
Magister Artium (Physical Education): M.A. (Phys.Educ.) (UOFS)
Master of Arts in Physical Education: M.A. (Phys.Ed.) (UP)
Master of Arts: M.A. (RU)
M. in Physical Education (US)
Magister Artium: M.A. (UWC)

Doctor Philosophiae: D.Phil. (UDW, UP, UWC)
Doctor Litterarum: D.Litt. (UOFS)
Doctor of Philosophy: Ph.D. (RU)
Doctor of Philosophy (Physical Education): Ph.D. (Physical Education) (US)

DIPLOMA

Diploma in Sports Coaching and Recreation (US)

Admission requirements: Persons who hold recognised teaching qualifications and who are regarded as suitable by the Department of Physical Education, Sport and Recreation may be admitted.

Duration: One year of full-time study. Students may apply to have the course spread over two years. Provision has been made for three fields, viz Provision of Sport; Recreation; Sport and Recreation for the Handicapped. A specific field will only be offered if there are at least five candidates.

See EDUCATION for specialised fields in Physical Education.

VOCATIONAL SERVICE: Physical Education is concerned with the study of human movement - why people move and what happens to them physically, psychologically and socially when they move. The subject also deals with the way in which various physical, psychological and social states and situations affect people's movements and the forms which these movements take. Terms such as Human Kinetics, Human Movement Studies and Sports Science are used to describe the discipline concerned with man-in-motion. Physical Education is the application of this disciplinary knowledge. A degree with Physical Education as one major subject offers job opportunities, inter alia, in the teaching profession; as sport or recreation officers or sport coaches in the service of industries, mines, universities, colleges and municipalities; as sport officers in the defence force, police and prison services; as sport journalists on the radio, television and news media. Large numbers of men and women in South Africa, particularly in the urban areas, do not take part in organised sport, although they are in need of physical development and recreation. In this case a private gymnasium offers a wonderful opportunity for qualified persons who also have the necessary knowledge, initiative and organising ability.

PHYSIOTHERAPY

Universities: UCT, UDW, MEDUNSA, UOFS, UP, US, UWC, UW

FIRST DEGREES

Bachelor of Science (Physiotherapy): B.Sc. (Phys.) (UCT)

Bachelor of Physiotherapy: B.Physio. (UDW)

Bachelor of Science in Physiotherapy: B.Sc. (Physiotherapy) (MEDUNSA, UOFS, UW)

or B.Sc. in Physiotherapy (US)

Bachelor of Physiotherapy: B.Phys.T. (UP)

Baccalaureus Scientiae in Physiotherapy: B.Sc. (Physio) (UWC)

Additional admission requirements:

UCT: As for the B.Sc. (Occ. Ther.) degree. See OCCUPATIONAL THERAPY.

UDW: As for the B.Pharm. degree. See PHARMACY.

MEDUNSA: A pass in Mathematics and in a science subject.

UOFS: A pass in Mathematics SG. Prospective students are strongly advised to offer Physical Science and, if possible, Biology as well for the Std 10 examination.

UP: A pass of at least 40 % in either Physical Science HG or in Biology HG, or at least 50 % SG in the subjects mentioned.

US: A pass in Mathematics HG or SG. Prospective students are strongly advised to take Physical Science and/or Biology and/or Physiology for the Std 10 examination. Enrolment is limited and students are selected during September of the preceding year. Applications for admission to the course should reach the Registrar before 30 June.

UWC: A pass of at least 40 % in Mathematics HG and in Biology HG or Physical Science HG, or at least 50 % SG in the subjects mentioned.

UW: As for the M.B., B.Ch. degree. See MEDICINE.

Duration: Four years of full-time study.

POSTGRADUATE DEGREES

Hons.B.Sc. in Physiotherapy (US)

Master of Science (Physiotherapy): M.Sc. (Phys.) (UCT)
Master of Physiotherapy: M.Physio (UDW)
Master of Science in Physiotherapy: M.Sc. (Physiotherapy) (MEDUNSA, UW) or M.Sc. in Physiotherapy (US)

Magister Scientiae in Physiotherapy: M.Sc. (Physiotherapy) (UOFS)
Master of Physiotherapy: M.Phys. T. (UP)

Doctor of Philosophy: Ph.D. (UCT, UW)
Philosophiae Doctor: Ph.D. (UOFS)

DIPLOMAS

Diploma in Teaching Physiotherapy (UCT)

Tertiary Diploma in Education in Physiotherapy (UOFS)

Diploma in Physiotherapy Education (UW)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption); a qualification in Physiotherapy which is accepted for registration with the SA Medical and Dental Council; and at least two years' approved experience in the practice of Physiotherapy.

Duration: Three terms of full-time study at UCT; three semesters of full-time study or two years of part-time study at UOFS; and two years of part-time study at UW.

Diploma in the Teaching of Physiotherapy (UDW)

Admission requirements: The National Diploma in Physiotherapy.

Duration: Two years of full-time study.

Diploma in Intensive Care Physiotherapy (UCT)

Admission requirements: As for the Diploma in Teaching Physiotherapy

Duration: One year of full-time study.

Diploma in Advanced Physiotherapy (UW)

Admission requirements: A B.Sc. (Physiotherapy) degree or an equivalent degree; registration with the SA Medical and Dental Council; and at least one year's experience as a physiotherapist. In an exceptional case, a person who is registered with the SA Medical and Dental Council as a physiotherapist by virtue of his holding a recognised diploma in physiotherapy and who has had at least two years' experience as a physiotherapist in a recognised institution may be admitted.

Duration: One year of full-time study.

Diploma in Respiratory Physiotherapy (UDW)

Admission requirements: Physiotherapists with a primary qualification in physiotherapy as recognised by the SA Medical and Dental Council.

Duration: One year

VOCATIONAL SERVICE: Physiotherapy is one of the ancillary health services. The physiotherapist is therefore part of the medical team who jointly strive to get the patient back to health as soon as possible so that he can resume his normal lifestyle. If this is not possible, the additional role of the physiotherapist is to rehabilitate the patient, enabling him to cope with his handicap.

Physiotherapy requires a sound scientific background as well as practical skills. The work is physically demanding in that the physiotherapist is actively involved in the patient's treatment. The treatment includes manipulation by hand and by means of certain machines, as well as the use of natural elements such as water, heat, cold and sunlight (ultraviolet light).

Physiotherapists work inter alia in hospitals or physiotherapy clinics where the apparatus and facilities are available to provide the five main forms of treatment: massaging and mechanotherapy, electrotherapy, phototherapy, hydrotherapy and ultrasonic therapy. The divisions in which physiotherapists can work include those of adults and children; medical, orthopaedic and surgical cases; cardiac, maternity or casualty cases, as well as intensive care units and centres for the cerebral palsied. Favourable career opportunities are also available in the Department of Health Services and Welfare, the provincial hospital services, on the mines, in private clinics and in private practice. Competent persons (male and female) can make rapid progress. All physiotherapists are required to register with the SA Medical and Dental Council.

POLICE SCIENCE

University: UNISA

FIRST DEGREE

Bachelor of Arts (Police Science): B.A.(Pol.)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Duration: Three years

This degree course is intended for the S.A.P., the Railway Police, Traffic Police and persons employed in all types of security services.

VOCATIONAL SERVICE: The uniform, detective and security branches in which the SA Police is organised, offer virtually unlimited possibilities for promotion to ambitious men and women. Promotion to higher ranks occurs mainly after the successful completion of internal examinations but this can be expedited if a person already holds an appropriate degree or diploma.

Also consult Tertiary Training for particulars on training in the police service.

PURE NATURAL SCIENCES

Universities: All the universities except MEDUNSA and VISTA

FIRST DEGREES

Bachelor of Science: B.Sc. (UCT, UFH, UN, UNORTH, UP, RAU, RU, UNISA, US, UW, UZ)

Baccalaureus Scientiae: B.Sc. (UDW, UOFS, UPE, PU for CHE, UWC)

Additional admission requirements:

UCT: At least a C symbol in Mathematics HG or an A symbol in Mathematics SG, and at least a C symbol HG or an A or B symbol SG in one of the following subjects: Physical Science, Biology, Physiology. Physical Science is, however, preferred.

The Faculty of Science uses a point rating system as a guide in determining the eligibility of applicants for admission. See ARTS for the admission rating system.

- Scores are based on the symbols of the six best matric subjects.
- Non-academic courses such as Home Economics, Woodwork, technical courses and Needlework, will not be counted.
- The rating of Mathematics and the best of Physical Science, Biology or Pbysiology are doubled.
- Maximum possible points attainable: 64.
- A student who obtained 45 points or more was automatically accepted in 1984, but this would not necessarily be applicable for 1986 as the point levels are adjusted from year to year.

UDW: A pass in Mathematics HG or at least 50 % in Mathematics SG and a pass in Biology HG or Physical Science HG or at least 50 % SG in these subjects.

UFH: Students are selected for admission according to a rating system which is based on the results of the matriculation examination. The matric symbols have the following values:

Subjects taken on the Higher Grade:
A = 9 B = 8 C = 7 D = 6 E = 5 F = 4

Subjects taken on the Standard Grade:
A = 7 B = 6 C = 5 D = 4 E = 3 F = 2

Pre-differentiated subjects:
A = 8 B = 7 C = 6 D = 5 E = 4 F = 3

The points awarded for Mathematics (which is compulsory in order to be admitted to any B.Sc. course) are always doubled while the highest points obtained in one of the science subjects, viz Physical Science or Biology, are also doubled. A student must obtain a total rating of 45 points at least. 48 points are required for the B.Sc. Pre-Med. course.

In addition to the rating, a student must obtain at least an E symbol in Mathematics HG or a D symbol in Mathematics SG in order to be admitted to Mathematics I.

UN: Passes of at least 40 % in Mathematics HG and a natural science HG or at least 60 % SG in these subjects. As from 1986 the minimum entrance requirement on the Standard Grade will be 70 %.

UNORTH: Students shall be admitted only if they have a rating of 30 or more on the Selection Scale* which is based on the results of the matriculation examination, and at least an F symbol in Mathematics HG or an E symbol in Mathematics SG.

*Selection Scale

The rating of a candidate is calculated as follows:

Sum of marks for the six best matric subjects. The matric symbols of subjects on the Standard Grade have the following mark values:

A = 8	C = 6	E = 4	G = 2
B = 7	D = 5	F = 3	H = 1

For symbols of subjects on the Higher Grade add one extra mark.

UOFS: If Mathematics is included in the curriculum a pass of at least 50 % (D symbol) in Mathematics HG or at least 60 % (C symbol) in Mathematics SG is required, as well as a pass in Physical Science SG and/or Biology SG.

Other curricula: A pass in Mathematics HG or at least 60 % (C symbol) in Mathematics SG and a pass in Physical Science SG and/or Biology SG
OR
a pass in Mathematics HG or at least 40 % (E symbol) in Mathematics SG and a pass of at least 60 % (C symbol) in Physical Science HG and/or Biology HG as well.

UPE: A pass in Mathematics SG. For admission to the following courses a candidate must have obtained the standard indicated in each case:

- Mathematics I, Statistics I, Applied Mathematics I: A pass of at least 40 % in Mathematics SG

- Computer Science: A pass in Mathematics SG

PU for CHE: A pass in Mathematics HG or passes in a natural science subject, preferably Physical Science HG and Mathematics SG. A student who wishes to take any of the courses in Mathematics must have obtained at least 50 % in Mathematics HG or at least 60 % in Mathematics SG. Students who obtained a lower percentage may be admitted to a Refresher Course offered by the Summer School in January. If they obtain satisfactory passes in the tests taken during the course, they may be admitted to a course in Mathematics.

UP: For admission to the following courses a candidate must have obtained the standard indicated:

- Biology, Botany, Chemistry, Entomology, Genetics, Geology, Metallurgy, Physics or Zoology: A pass in Mathematics HG and in Physical Science HG or at least 50 % SG in these subjects.

- Computer Science, Applied Mathematics, Mathematics or Mathematical Statistics: A pass in Mathematics HG or at least 50 % in Mathematics SG.

RAU: At least 40 % (E symbol) in Mathematics HG or at least 50 % (D symbol) in Mathematics SG. Students who do not meet this requirement will only be admitted to the B.Sc. degree course after they had passed Mathematics Special A and B at RAU.

RU: At least an E symbol in Mathematics HG or a D symbol in Mathematics SG, or a pass in Mathematics in an equivalent examination.

UNISA: A pass in Mathematics.

US: Passes in Mathematics and Physical Science of which at least one must be on the Higher Grade, or a pass in Mathematics HG and in a science subject HG or at least a C symbol in these subjects on the Standard Grade.

For all degree courses in which Mathematics I is offered as a subject, a pass in Mathematics HG or at least a C symbol in Mathematics SG is required.

Students who intend to take a course in Chemistry and/or Physics are strongly recommended to take Physical Science for the Std 10 examination. Should a student wish to take Botany and/or Zoology, he is strongly recommended to take Biology, besides Physical Science, for the Std 10 examination.

UWC: At least 40 % in Mathematics HG and also in Biology HG or in Physical Science HG, or at least 50 % SG in these subjects.

UW: A pass in Mathematics HG or, for curricula not including a course in Mathematics, a pass of at least 60 % in Mathematics SG

- A pass on the Higher Grade in one of the subjects in List A below if Mathematics has been passed on the Higher Grade, or if Mathematics has been passed on the Standard Grade, either two of the subjects in List A below or one of the subjects in List A and one of the subjects in List B below:

List A	List B
Biology	French
Geography	German
Physical Science	Hebrew
Physiology	History
	Latin

UZ: A pass of at least 40 % in Mathematics HG or 50 % in Mathematics SG or a pass in Mathematics O.

Duration: Three years of full-time study or four years of part-time study. At UNISA the degree must be obtained within ten years of the student's first registration for the degree.

See Appendix D for list of major subjects for B.Sc. and Appendix G for list of B.Sc. (Honours) subjects offered in the Faculty of Science by the various universities.

See EDUCATION for degree and diploma courses with specialisation in Science.

POSTGRADUATE DEGREES

Bachelor of Science (Honours): B.Sc.(Hons.) (UCT, UFH, UP) or B.Sc.Hons. (UN)
Honoris Baccalaureus Scientiae: B.Sc.(Hons.) (UDW)
Honours Bachelor of Science: B.Sc.Hons. (UNORTH, RAU, US) or Hons.B.Sc. (UNISA, UZ)
Baccalaureus Scientiae Honores: B.Sc.Hons. (UOFS, UPE)
Honours Baccalaureus Scientiae: Honns.B.Sc. (PU for CHE)
Bachelor of Science with Honours: B.Sc.(Hons.) (RU) or B.Sc. Hons. (UW)
Honours Baccalaureus Scientiae: B.Sc.Hons. (UWC)

Master of Science: M.Sc. (UCT, UFH, UN, UNORTH, UP, RAU, RU, UNISA, US, UW, UZ)
Magister Scientiae: M.Sc. (UDW, UOFS, UPE, PU for CHE, UWC)
Master of Philosophy: M.Phil. (UCT)
Magister Philosophiae: M.Phil. (RAU)

Doctor of Philosophy: Ph.D. (UCT, UN, UNORTH, RU, UNISA, US, UW)
Doctor of Science: D.Sc. (UCT, UFH, UN, UP, RAU, RU, US, UW, UZ)
Doctor Scientiae: D.Sc. (UDW, UOFS, UPE, PU for CHE, UWC)
Philosophiae Doctor: Ph.D. (UOFS, UPE)
Doctor Philosophiae: Ph.D. (UDW)
Doctor Philosophiae: D.Phil. (RAU)

VOCATIONAL SERVICE: It should be emphasised that students should be very selective as regards their choice of subject combinations in their field of interest, particularly as far as major subjects are concerned. With a view to career possibilities, they should also make use of the guidance services of the school and university, since many occupational fields also demand intimate knowledge of certain other subjects.

The following are some of the career possibilities which arise from the most important major subjects:

Actuarial Science: Some universities such as the Universities of Cape Town and the Witwatersrand offer courses in Actuarial Science which provide partial exemption from the actuarial examinations. See also BUSINESS SCIENCE.

In order to qualify as an actuary, a series of examinations must be passed. Tuition takes place by means of correspondence courses. There are two professional bodies which set actuarial examinations, viz the Institute of Actuaries with headquarters in London, and The Faculty of Actuaries with headquarters in Edinburgh. These two bodies jointly control The Actuarial Tuition Service in London, which deals with all tuition matters. There is a local centre of this tuition service in Johannesburg and another in Cape Town.

Prospective actuaries can first complete a B.Com, B.Sc. or even a B.A. degree and then continue with studies in order to become actuaries. However, the most important requirement is that their university course should include at least two years of Pure Mathematics, and if possible, also an introduction to Statistics, Accounting and Economics. Although university study is of great help in passing the actuarial examinations, it is nevertheless not a requirement. After leaving school, a candidate may enter the service of an insurance company or a firm of consulting actuaries and immediately commence with his actuarial studies.

The particular training an actuary receives definitely gives access to a wide variety of othe fields. Actuaries are few and far between and chief managerial posts are within their grasp, even while they are still studying. Most actuaries are employed by life assurance companies which also offer exceedingly favourable prospects of promotion. Others act as consultants in the service of, for example, building societies and other financial institutions; trading companies, industries, mines, the Railways, municipalities and so forth. The expansion of commerce and industry entails that more and more actuaries are being appointed in the private sector. Some government departments appoint actuaries in a full-time or in a consulting capacity.

More information may be obtained from the Honorary Secretary, The Actuarial Association of South Africa, P.O.Box 4464, Cape Town 8000.

Applied Mathematics is the subject that bridges the gap between mathematical theory and practice. The subject basically involves a study of the design and use of mathematical models. A mathematical model is a representation of situations that occur in practice. These situations can occur in various fields, but the subject Mathematics focusses mainly on fields that are important to Engineering, Physics and Computer Science. Consequently Applied Mathematics is a prerequisite for all Engineering students.

Job opportunities for persons with postgraduate training are available at institutions such as the universities, the CSIR, NUCOR, SABS, UCOR, ARMSCOR and various industries.

Astronomy: The student of Astronomy today finds himself in an era where the solar system is being explored by spacecraft and important discoveries are being made by observing the rest of the universe by means of X-rays and radio waves. The astronomer endeavours to determine the relation between the different parts of the universe and to understand the laws governing the mechanics of the universe.

Although the interest in Astronomy has increased considerably during recent times on account of space research, prospective students are still advised to include as many of the subjects Mathematics, Applied Mathematics, Physics, Statistics and Computer Science as possible in the curriculum with a view to a possible change of career. Career prospects for astronomers have improved considerably, however, and depending on developments, the demand for astronomers of a high quality could also be expected to increase.

Job opportunities as research or technical officers are available at the following observatories: The SA Astronomical Observatory at Sutherland in the Cape and the Magnetic Observatory at Hermanus in the Cape, both of which are administered by the CSIR, and the National Institute for Telecommunications Research (CSIR) in Johannesburg.

Biochemistry: Biochemistry is actually, as the name indicates, the chemistry of biological systems, which means the study of the very great variety of chemical processes or reactions which are continually taking place in the life of any living creature. As a science therefore it is the study of living organisms from a molecular point of view.

Since Biochemistry forms a link between the physical (exact) sciences such as Chemistry, Physics, etc., and the biological sciences such as Botany, Zoology, Physiology and Microbiology, training with Biochemistry as one of the majors offers the particular opportunity of making a choice between careers existing in any of these fields.

Some of the organizations employing biochemists are, inter alia, the research institutes and units of the CSIR, the SA Medical Research Council and NUCOR; universities (lecturers, researchers and technicians in the Faculties of Medicine, Science and Agriculture); industries responsible for the production of food, drink, pharmaceutical products, cosmetics, textiles, fertilizers, insecticides and weed-killers, cattle remedies and cattle-feed, vitamin concentrates and so forth. Not only is research undertaken in most of the industries but there are also opportunities for the development of new products and the chance of promotion to managerial posts. Biochemists are also employed by the Government Departments such as Agriculture and Water Supply, and National Health and Population Development.

Biology: The biologist studies and does research into the origin, derivation, development, anatomy, distribution and other basic characteristics of flora and fauna and the relation between plant and animal life.

Although some universities offer Biology as a separate subject, biologists usually specialise in one or other section within the two main fields, namely Botany and Zoology. The occupational field for the biologist will consequently be much the same as that for zoologists and for botanists. See Botany below and Zoology.

Botany/Plant Sciences: Botany is a branch of Biology with a comprehensive field of study which mainly covers the following: Plant morphology (form and structure of plants); plant taxonomy (classification of plants); plant physiology (life processes and activities of plants); plant genetics (heredity in plants); plant ecology (relationship between plants and their environment); plant pathology (plant diseases and the combating thereof); economic botany (use and economic importance of plants); cytology (the study of plant cells), and so forth. Botany can be combined with a variety of subjects for the B.Sc. degree, such as for example, Zoology, Chemistry, Biochemistry, Microbiology, Geography, Geology, Physiology, Physics and Mathematics.

There are opportunities for employment in the following institutions, among others: education departments, research institutes of the Department of Agriculture and Water Supply, National Botanical Gardens, the CSIR, museums, as officers in the service of the National Parks Board, the Nature Conservation Divisions of the different provinces, private concerns such as fertiliser companies, manufacturers of phytopathological preventatives and nurseries. There are fairly numerous posts available to persons in possession of a B.Sc. degree, but candidates with postgraduate training are given preference.

Chemistry: In school this subject is part of Physical Science. Chemistry concerns the study of matter, the changes that it can undergo, and the energy involved in these changes. The subject consists of various subdivisions:

* Analytical Chemistry basically involves the determination of the structure and more particularly the compositions of organic and inorganic compounds.

- * Inorganic Chemistry involves the study of the elements and the chemical compounds that they form.

- * Organic Chemistry covers the reaction rate of compounds that contain carbon.

- * Physical Chemistry defines the structure and properties of gases, fluids, solids and solutions, and systematises them in laws. It also concerns the energy ratios in physical and chemical changes, the rate at which these changes occur as well as their extent.

The CSIR, NUCOR, UCOR, ISCOR, SABS, the Council for Mineral Technology and particularly industry, offer career opportunities for Chemistry graduates, inter alia, as researchers, laboratory managers, production leaders and development officers.

Training in Chemistry is becoming increasingly important in order to fulfil the need for teachers of Chemistry in secondary schools and lecturers at universities and technikons.

See also Chemical Engineering.

Consult also Tertiary Training for more particulars on the National Diplomas in different branches of Chemistry.

Computer Science: This subject is also offered at school level. At university the student is introduced to the computer and all its facets with regard to its structure, application and uses. Use of computers has increased tremendously during recent years. Computers are used on a large scale by, inter alia, banks and building societies. Airlines, railway services, theatres and hotels use computerised booking systems. Computers are also used for the complex mathematical calculations in space travel, nuclear development and the control of large factories.

Specialised knowledge of the functions of the computer can be acquired through experience or by means of intensive training provided by computer firms as well as other institutions. The computer scientist, however, is in the first place someone who is able to evaluate the wider implications of automatisation and to optimise the computer's potential. The university training equips the student with the essential background knowledge of a very wide field and the course therefore involves much more than merely programming.

Employers offering careers in electronic data processing in South Africa can be divided into four main categories:

- Firms that manufacture or sell computers;
- businesses in commerce and industry that use computers;
- institutions in the public sector that use computers on a large scale (for example quite a number of government departments, the SA Transport Services, the CSIR, the HSRC, SABS);
- organizations that make computer services and computer time available to firms that do not justify a computer of their own.

Each category offers careers in electronic data processing in a number of possible fields including operations, programming, systems analysis, technics, data processing management and marketing. Consequently the scope that these categories offer is wide enough to cater for commercial students, the mathematically minded, those with a natural sciences background as well as those whose primary interest is the computer itself. The choice of a particular field will be determined mainly by the candidate's training, interest and aptitude. Candidates are also expected to write one or more aptitute tests as a prerequisite for entrance to the course.

Entomology (the study of insects): Whereas Entomology used to be a subsection of Zoology, it has developed today into a specialised science with several subdivisions. Thus it offers opportunities for specialisation in fields such as the identification and classification of insects or a study of the anatomy, physiology or behaviour of insects. The specialised knowledge of the entomologist is invaluable in many fields, but particularly in the field of agriculture.

Zoology, Botany and Microbiology are some of the subjects which combine very effectively with Entomology. Entomology is also one of the major fields of study for the B.Sc. Agric. degree. See AGRICULTURE.

Entomologists normally work as researchers in, for example, museums, the Government Departments of National Health and Population Development and Agriculture and Water Supply (various research institutes and regional organizations), the SABS, the CSIR (several research institutes), the Medical Research Institute, Onderstepoort and the private sector, as technical advisers to spray firms, co-operatives, various large producers of fruit, sugar, timber etc.; as marketing representatives in firms which manufacture and distribute insecticides and spraying equipment. There are also posts as lecturers at universities or colleges and as teachers of agriculture and biology. There is also the possibility of acting as a consulting entomologist in private practice.

Genetics may be defined as the science of heredity, that is the study of how the properties of living things are passed on to succeeding generations, how these properties arise and how they are realised during development. Because of the profound insight into the nature of the living world that it provides, genetics is highly relevant to branches of biology such as morphology (study of form), physiology (study of function), biochemistry, development and evolution.

Students may major in Genetics through either the Faculty of Science or the Faculty of Agriculture. See AGRICULTURE.

Geneticists may be employed by agricultural, biological or medical research institutes, or by certain commercial firms with animal or plant breeding programmes. They may also be employed as lecturers at universities and colleges.

Geography: See vocational service of ARTS.

Geology (including Geophysics and Palaeontology): Geoscience as such currently has many divisions and includes advanced research and its practical application to many facets of modern society. Within these various areas of research and application the geologist, geophysicist and palaeontologist contribute, each in his own specialised field, to the welfare of man. The geologist, who may specialise in various fields, makes use of his training in Geology, Chemistry, Geochemistry, Geography, Physics, Statistics and Mathematics in the various techniques employed in the geological mapping and exploration of the country, the discovery and evaluation of mineral deposits, and research concerning engineering projects and physical planning. The geophysicist makes use of his knowledge of Physics, Geology, Mathematics and Geophysics in the search for mineral deposits and underground water and also in determining the suitability of sites for planned construction projects. The palaeontologist, with his knowledge of Zoology, Botany, Palaeontology and Geology, undertakes the unravelling of the historical development of life and applies this knowledge to the correlation of rock formations with conditions of sedimentation.

In a country such as South Africa where the economy is largely dependent on mineral production, it is obvious that a subject such as Geology plays an important role. It offers an opportunity for study and work in the open to persons who are fond of life in the fresh air. However, it also offers sufficient opportunity for research in a laboratory with modern equipment.

The Department of Mineral and Energy Affairs employs graduates who have already reached an Honours level, as geologists, palaeontologists or geophysicists in one of the six divisions of the Geological Survey Branch. Other Government Departments which employ graduates are Agriculture and Water Supply, Environmental Affairs and the provincial administrations.

Most geologists, however, are employed by mining groups as field explorers or mine geologists. The remainder are attached to universities as lecturers, to scientific bodies or institutes such as the CSIR, museums and the Bernard Price Institute for Geophysical Research at the University of the Witwatersrand. Some are employed to do geological work for concerns such as Sasol, Iscor, SOECOR, other large industries and civil engineering firms. A few act as private consultants.

Also consult Tertiary Training for particulars on the National Diploma in Geology.

Mathematics: The large variety of study objects in Mathematics include numbers, sets, functions and geometrical entities. When investigating the characteristics of these objects, the exact data and possibly certain additional suppositions are closely adhered to while logical deductions are made. New knowledge is thus brought to light on the basis or irrefutable evidence. The total volume of mathematical results is therefore continually increasing.

Mathematics as university subject is related to subjects such as Physics, Mathematical Statistics, Computer Science and Chemistry, but it also combines meaningfully with Zoology, Economics and Psychology.

The Mathematical Sciences such as Mathematics, Applied Mathematics, Statistics or Mathematical Statistics are indispensable as auxiliary sciences to most of the engineering, commercial and natural sciences as well as several others. Consequently those days when a candidate with mathematical qualifications almost invariably ended up teaching have long been something of the past. As a result of developments and a growing labour field, the need for trained mathematicians is continually increasing. Apart from schools and universities, job opportunities are also offered by the CSIR, NUCOR, UCOR, ISCOR, and with appropriate further study, also in the actuarial field.

Microbiology, which includes the field of Virology, involves the study of microscopic organisms such as fungi, algae, protozoa and bacteria that are observed by means of light microscopes, and viruses that are visible only under an electron microscope. The importance of this field of study is emphasised by the far-reaching role that these micro-organisms play in human, plant and animal life. They can for instance cause killer diseases, food contamination as well as damage to valuable materials and raw materials. Some of their activities however are beneficial or potentially beneficial to human life, for example in water purification.

Institutions that employ microbiologists include, inter alia, the CSIR, MRC, Onderstepoort, practising pathologists and different industries (for instance the pharmaceutical, food and fermentation industries).

Oceanography and Marine Biology: Oceanography is the study of the sea - including life in it, the ocean floor and the air above the ocean. It is a compound of various subject fields which require the co-ordinated services of divergent kinds of scientists who, as a result of their particular interest in the sea and its environs, are closely associated with each other. Here one thinks, for example, of marine geologists, chemists, physicists, biologists and meteorologists who, in turn, are dependent on mathematicians, engineers, technologists and technicians to assist in various fields in compiling and processing data.

Marine Biology and Oceanography are not synonymous terms. Marine Biology is a specialised branch of Oceanography comprising a study of plant and animal life in the sea. To sum up, one can state that this field of research involves all aspects of modern biological sciences such as taxonomy, biochemistry, physiology, ecology, life history, behavioural and environmental studies.

Because of this wide range of subject fields involved, the specialised training of an oceanographer actually starts only when he has obtained a B.Sc. degree, or preferably, a B.Sc. (Hons.) degree in ordinary science subjects. Apart from Botany, Zoology, Chemistry, Geology, Physics or Microbiology as one of the majors, these subjects should also include Mathematics and, in addition, a carefully chosen combination of subsidiaries. The University of Port Elizabeth offers Marine Biology (or Biological Oceanography) as a specialised field in Zoology in the third-year of study for the B.Sc. degree as well as at postgraduate level. The University of Cape Town offers a B.Sc.Hons. degree in Marine Biology and in Physical Oceanography. The admission requirement for the latter is a B.Sc. degree with Zoology as a major subject.

Bodies which employ marine experts are inter alia the following: The South African Museum, Cape Town; Fisheries Development Corporation of South Africa Limited, Cape Town; National Research Institute for Oceanology, CSIR, Stellenbosch; Port Elizabeth Museum, Port Elizabeth; Oceanographic Research Institute, Durban; The J.L.B. Smith Institute of Ichthyology, Grahamstown; National Institute for Water Research, CSIR, Pretoria; Fishing Industry Research Institute, University of Cape Town, Cape Town.

Oceanographers and marine biologists are employed by the Department of Environmental Affairs. The major part of their time is spent in modern laboratories at the headquarters of the Marine Development Branch in Cape Town. They have the opportunity to specialise in fields such as chemical oceanography, physical oceanography, fisheries biology and biological oceanography, statistics, and marine mammals.

Also consult Tertiary Training for particulars on the National Diploma in Oceanography.

Ornithology: At present no specific training for the study of birds is offered in South Africa. Ornithologists are therefore appointed from among the members of qualified zoologists. The requirement for appointment is normally a B.Sc. degree with Zoology as a major in combination with subjects such as Botany, Entomology, Geography, Geology, etc. However, an Honours or Master's degree will be a strong recommendation.

Job opportunities for ornithologists are extremely limited and ony really dedicated persons with particular talent and interest in this field may hope to obtain a position and achieve success in such a career. They are employed, for example, by the National Parks Board, the Department of Agriculture and Water Supply, the Percy FitzPatrick Institute for African Ornithology of the University of Cape Town and some museums.

Physics: The field of study of Physics extends from the study of the material nature of heavenly bodies to that of infinitesimally small parts of the universe. Physics can be defined as the study of matter and energy and the phenomena associated with these, for example mechanics, electricity and magnetics, optics, sound, warmth, atomic or nuclear physics and solids. Physics deals with the basic principles and laws of nature. The knowledge derived from research work in a physics laboratory led to the development of electricity, nuclear energy, the laser, space travel, radio communication, etc.

Physics is one of the key subjects in natural sciences study. A one-year course in Physics is required for Chemistry as major subject and for graduate studies in Pharmacy, Medicine, Agriculture and Engineering. Physics can be taken as a major subject together with Mathematics, Applied Mathematics, Statistics, Chemistry and Computer Science.

The particularly wide field covered by Physics, together with a prudently chosen combination of major and subsidiary subjects will not only lay the basis for an interesting career, but will also serve as an incentive for further study and research which is essential in this science. There is a great demand for Physics teachers in all the education departments; for nuclear physicists and other research officers in the CSIR, NUCOR and at some universities; for researchers in for instance ISCOR, SASOL, AECI, the mines and other industries such as the textile and wool industries, oil companies, oceanographic institutes and companies that market scientific instruments. The still developing electronics industry offers particular opportunities for research, development and production in the field of for instance television, radar and automatisation as well as in respect of the design and handling of high-speed computers. There is also a growing need for physicists and biophysicists in hospitals and related institutions.

Physiology: Physiology is a biological science which embraces a study of the normal functions of living creatures, particularly of man. It contributes particularly to a knowledge of the normal functions of the human body and consequently also indirectly to deviations and diseases of humans. In actual fact it is an applied science of life which forms the basis for further training in medicine, veterinary science, pharmacology, pharmacy and other specialised fields in medicine and paramedical services such as physiotherapy, occupational therapy, nursing and hospital dietetics. In the context of the natural sciences Physiology is important for training in dietetics, home economics and physical education and it also serves as a preparatory course for advanced research in many applied fields.

A career with this biological science as a major, in combination with subjects such as Chemistry, Physics, Mathematics, Zoology, Microbiology, Psychology, Biochemistry, Botany, Physical Education and Dietetics, can be found mainly in two directions, viz teaching and research. Physiology is of great value in the teaching of Biology and some secondary schools offer it as a separate subject. At higher educational institutions there is a demand for lecturers with advanced training in Physiology.

Various laboratories which undertake biological research employ physiologists, for instance the Chamber of Mines' Laboratory for Industrial Hygiene, the Medical Research Council, the Department of Health Services and Welfare, Onderstepoort, the CSIR.

Statistics (Mathematical Statistics) is the science in which methods for the analysis of numerical data are studied. Data are continually being collected in laboratories and in commerce and industry in order to obtain certain information. Statistics therefore is important in a number of study fields. Because the approach is mathematical, Statistics is usually combined with Mathematics and other related subjects such as Applied Mathematics and Computer Science.

Statistics offers excellent career opportunities for persons with an aptitude for figures, for instance in institutions such as Central Statistical Services, the Weather Bureau, universities, the CSIR and the HSRC, as well as insurance companies and market research firms.

Zoology is a division of Biology and can be defined as the science of animals. The subject encompasses a large variety of basic and applied fields including the following: the form and build (morphology and anatomy) of the different parts of animals' bodies; the finer anatomy of their organs (histology); the way in which the different parts of the body function (physiology); the development of the organs (embryology); the way in which characteristics are transferred from one individual to another (genetics); the relation between the individual and his environment (ecology), and the classification of animals in particular groups (taxonomy). Some of the fields, for example genetics and physiology, have developed into separate subjects.

Biochemistry, Chemistry, Physiology, Physical Education, Microbiology, Botany and Mathematics are subjects that combine well with Zoology as second major subject.

Persons with postgraduate qualifications are usually preferred and they also have more job opportunities.

Zoologists generally have the opportunity to choose from a variety of job fields, some of which amount to mainly laboratory work while others require working out of doors. Prospective employers include all the education departments; the medical research institutes; the CSIR and SABS; Onderstepoort; museums; the divisions for nature conservation, game reserves, zoos and fisheries; oceanographic institutes; industries such as the manufacturers of fertilizers, insecticides and stock remedies; the National Parks Board and many bigger and smaller firms with interests in animal products. In the Public Service graduates are likewise able to choose from a variety of professional fields.

QUANTITY SURVEYING

Universities: UCT, UN (Durban), UOFS, UPE, UP, UW

FIRST DEGREES

Bachelor of Science in Quantity Surveying: B.Sc.(Q.S.) (UCT)

Additional admission requirements: A pass in Mathematics HG or at least 50 % in Mathematics SG and a pass in a science subject SG. The enrolment for this degree is limited.

Duration: Three years of full-time study followed by two years of part-time study. A candidate must be employed full-time in the office of a registered quantity surveyor during the period in which he is studying part-time.

Bachelor of Science in Quantity Surveying: B.Sc.(Q.S.) (UOFS, UW)

Additional admission requirements:

UN: As for the B.Arch. degree. See ARCHITECTURE
UOFS: A pass in Mathematics SG and preferably also in Physical Science SG.
UW: As for the B.Sc. (Building) degree. See BUILDING.

Duration: Four years of full-time study. A student spends the long vacations working in the office of a registered quantity surveyor, or a quantity surveying office of a government department, provincial administration, or local authority.

Baccalaureus Scientiae in Quantity Surveying: B.Sc.(Q.S.) (UPE)

Additional admission requirements: A pass of at least 40 % in Mathematics SG. Candidates may have to pass a special admission examination.

Duration: Four years of full-time study. Candidates may be permitted to spread the fourth-year courses over two years: provided that they are employed in the office of a quantity surveyor on a full-time basis.

Bachelor of Quantity Surveying: B.Sc.(Q.S.) (UP)

Additional admission requirements: As for the B.Arch. degree. See ARCHITECTURE.

Duration: Five years of full-time study. After attending lectures, during the third, fourth and fifth years of study, candidates are required to work in the office of an approved registered quantity surveyor for the rest of the day.

POSTGRADUATE DEGREES

Master of Science in Quantity Surveying: M.Sc. Q.S. (UN) or
M.Sc. (Q.S.) (UW)

Magister Scientiae in Quantity Surveying: M.Sc.(Q.S.) (UOFS, UPE)
Master of Quantity Surveying: M.Sc.(Q.S.) (UP)
Master of Science in Building Economics: M.Sc. Bldg.Econ. (UN)
Master of Philosophy: M.Phil. (UCT)

Doctor of Philosophy: Ph.D. (UN, UW)
Philosophiae Doctor in Quantity Surveying: Ph.D. (UPE)
Doctor of Quantity Surveying: D.Sc.(Q.S.) (UP)
Doctor of Science in Quantity Surveying: D.Sc.(Q.S.) (UW) or D.Sc.Q.S. (UN)

VOCATIONAL SERVICE: The quantity surveyor's field covers all aspects of building costs and he is often referred to as the technical accountant of the building industry. He works in close collaboration with the architect, engineer and building contractor. In addition, he is a professional adviser, for example, in the case of a lawsuit in connection with a building contract, the appraisal of properties with a view to insurance, or advice to estate developers and investors in real estate.

The Public Service offers the quantity surveyor the opportunity of being active in practically any branch of quantity surveying. Quantity surveyors are employed, inter alia in the Departments of Public Works and Land Affairs, Development Aid, Education and Training and the provincial administrations. Large municipalities also have their own quantity surveying divisions.

Building contractors, property developing firms and practising quantity surveyors also employ quantity surveyors. In the course of time a quantity surveyor may embark upon an undertaking of his own.

The profession is not limited to men only. Women are equally welcome and persons with the appropriate aptitude and interest may be very successful in this career.

Also consult Tertiary Training for particulars on the National Diploma (Building Surveying).

RADIOGRAPHY

Universities: MEDUNSA, UOFS, UP

FIRST DEGREES

Bachelor of Diagnostic Radiography: B.Rad. (Diagn.) (MEDUNSA)

Bachelor of Radiography (Diagnostic): B.Rad. (Diagnostic) (UOFS)

Bachelor of Radiography (endorsement Radiodiagnosis): B.Rad. (UP)

Additional admission requirements:

MEDUNSA: A pass in Mathematics and Physical Science and/or Biology. Applicants must be at least 18 years old and physically fit.
UOFS: A pass in Mathematics SG. Prospectice students are advised to take Physical Science (and Biology if possible) for the Std 10 examination.
UP: A pass of at least 40 % in either Physcal Science HG or in Biology HG, or at least 50 % SG in these subjects. A pass in both of these subjects is preferable. A pass in Mathematics is also required.

Duration: Three years of full-time study. Each student must apply for registration with the SA Medical and Dental Council as a student in Radiography immediately after admission to the first year of study.

POSTGRADUATE DEGREES

Baccalaureus in Radiography Honores: B.Rad.Hons. (UOFS)
Bachelor of Radiography (Honours): B.Rad.(Hons.) (UP)

Master of Radiography: M.Rad. (UOFS, UP)

DIPLOMAS

Diploma in Therapeutic Radiography (UOFS)

Admission requirements: The Diploma in Diagnostic Radiography.

Duration: Three semesters. The course is offered in co-operation with the training hospitals.

Diploma in Nuclear Medicine (UP)

Admission requirements: The B.Rad. degree, or a Senior Certificate (Matriculation Exemption) and the three year Diploma in Diagnostic Radiography.

Duration: Three semesters of full-time study.

Diploma in Radiation Protection for Sisters (UP)

Admission requirements: A Senior Certificate and the status of a sister in a general hospital.

Duration: One year of full-time study. During this period a candidate must be attached to the departments of Radiodiagnosis and Radiotherapy of the H.F. Verwoerd Hospital as a sister-student radiographer.

Diploma in Teaching Radiography (UCT)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption); a qualification in the appropriate branch of Radiography which is registrable with the SA Medical and Dental Council; and at least four years' experience in the appropriate branch of Radiography.

Duration: One year of full-time study.

VOCATIONAL SERVICE: Radiography offers two branches, namely

> Diagnostic Radiography which comprises the taking of Röntgen photographs (X-rays), and the application of ultrasound and radioactive isotopes to obtain images of the patient's internal organs and tissues so that they can be produced on photographic film so that the radiologist can diagnose the injury or disease.
>
> Therapeutic Radiography is primarily concerned with the treatment of tumours and other illnesses by means of radiation which has been

prescribed by the radiologist.

(The radiologist is a qualified medical practitioner who has also specialised in radiotherapy and/or radiographic diagnosis.)

The occupation is normally practised by women. There is, however, a need for qualified men as well and favourable prospects exist. Misconceptions concerning X-rays, their use and attendant dangers have in the past resulted in persons having doubts about this occupation. Today, however, adequate precautionary measures are taken to protect the radiographer against possible radiation, and the occupation is absolutely safe.

Radiographers are employed by all the hospitals in the country and the doubly qualified radiographer (in radiographic diagnosis as well as radiotherapy), in particular, should experience no difficulty in obtaining a suitable post. Many radiographers are also appointed in the private practices of radiologists.

Also consult Tertiary Training for particulars on the National Diploma in Radiography.

SECRETARIAL PRACTICE

University: RU

CERTIFICATE

Certificate in Secretarial Practice

Admission requirement: A Senior Certificate

Duration: Two years of full-time study, or four years if combined with a Bachelor's degree.

VOCATIONAL SERVICE: The purpose of this course is to train secretaries who not only possess the secretarial skills required in a business environment, but are also competent and well-informed. Modern business firms have an urgent need for the competent private secretary/personal assistant who is capable of attending to the numerous clerical and secretarial details of business. Career opportunities are virtually unlimited. See also Tertiary training for various secretarial courses.

SOCIAL SCIENCE

Universities: UCT, UN, UOFS, RU

FIRST DEGREES

Bachelor of Social Science: B.Soc.Sc. (UCT, UN, UOFS, RU)

Additional admission requirements: As for the B.A. degree. See ARTS.

Duration: Three years of full-time study.

POSTGRADUATE DEGREES

Bachelor of Social Science (Honours): B.Soc.Sc.(Hons.) (UCT) or B.Soc.Sc.Hons. (UN)

Baccalaureus Societatis Scientiae Honores: B.Soc.Sc.Hons. (UOFS)
Bachelor of Social Science with Honours: B.Soc.Sc.(Hons.) (RU)

Master of Social Science: M.Soc.Sc. (UCT, UN, UOFS, RU)
Master of Philosophy: M.Phil. (UCT)

Doctor of Philosophy: Ph.D. (UCT, UN, RU)
Doctor of Social Science: D.Soc.Sc. (UCT, UN, UOFS, RU)

DIPLOMA

Postgraduate Diploma in Applied Social Sciences: Post.-Grad.Dip.Appl. Soc.Sc. (UN)

Admission requirements: A graduate who has completed a major in one or more of the following subjects: Business Administration, Comparative African Government, Economic History, Economics, Geography, History, Industrial Psychology, Industrial Sociology, Philosophy, Political Science, Psychology, Social Anthropology, Social Work, Sociology, Town and Regional Planning.

Duration: One year of full-time study or two years of part-time study.

VOCATIONAL SERVICE: The term Social Science is sometimes loosely applied to any kind of study which is concerned with man and society, but in the strict sense it refers to the application of scientific methods to the study of the intricate and complex network of human relationships and the forms of organization designed to enable people to live together in societies.

There are a number of social sciences each of which specialise in the scientific study of particular aspects of human group life. Examples are Criminology, Sociology, Anthropology, Social Work, Economics, Political Science, Geography, Psychology. These specialized fields can never be completely separated from one another and exist because they make the study of complex social groups more manageable and effective. Together, or in particular combinations, they are useful in equipping students for certain types of careers. Careers in personnel management, public relations, journalism, or a teacher psychologist, industrial psychologist, labour relations officer are open depending on the major subjects. Also see ARTS for the vocational service under the subjects mentioned.

SOCIAL WORK

Universities: All the universities except VISTA and MEDUNSA

FIRST DEGREES

Bachelor of Social Science: B.Soc.Sc. (UCT)

Additional admission requirements: As for the B.A.degree. See ARTS.

Duration: Three years of full-time study. A student who wishes to obtain registration as a social worker must, after obtaining this degree, complete in addition, either the B.Soc.Sc. (S.W.)(Hons.) degree or the Advanced Diploma in Social Work.

Baccalaureus Artium in Social Work: B.A.(S.W.) (UDW, UPE, UWC)

Bachelor of Social Science in Social Work: B.Soc.Sc. (Social Work) (UOFS)

Baccalaureus Artium (Social Work): B.A. (S.W.) (PU for CHE)

Bachelor of Arts in Social Work: B.A.(S.W.) (UNORTH, UP, RAU, US)

Duration: Four years of full-time study. The course may be taken extramurally over five years at UP.

Bachelor of Arts in Social Work: B.A.(S.W.) (UFH, UZ)

or B.A. (Social Work) (UW)

Bachelor of Social Science: B.Soc.Sc. (UN)

Bachelor of Social Science (Social Work): B.Soc.Sc. (Soc. Work) (RU)

Additional admission requirements:

UW: As for the B.A. degree. See ARTS.

Duration: Three years of full-time study.

Bachelor of Arts in Social Science: B.A. (S.S.) (UNISA)

Additional admission requirements: Students must be able to attend one or two compulsory laboratory sessions of at least one week each, and to do practical work throughout the year in one of the following cities in each year in which he registers for a course in Social Work: Cape Town, Durban, Pretoria.

Students in Bloemfontein, Empangeni, Grahamstown, Johannesburg, Pietermaritzburg, Port Elizabeth and Windhoek, or other places where the necessary arrangements for field-training can be made, will be able to do the work locally, but they will be required to attend the laboratory sessions in one of the three cities listed above.

Duration: At least four years

POSTGRADUATE DEGREES

Bachelor of Social Science in Social Work (Honours): B.Soc.Sc.(S.W.)(Hons.) (UCT)
Bachelor of Arts in Social Work (Honours): B.A.(S.W.)(Hons.) (UFH)
Bachelor of Social Science (Honours): B.Soc.Hons. (UN)
Bachelor of Arts Honours in Social Work: B.A.Hons.(S.W.) (UNORTH)
Baccalaureus Societatis Scientiae Honores in Social Work: B.Soc.Sc.Hons. (Social Work) (UOFS)
Baccalaureus Artium Honores in Social Work: B.A.Hons. (S.W.) (UPE)
Bachelor of Social Science with Honours: B.Soc.Sc. (Hons.) (RU)
Honours Bachelor of Arts in Social Science: Hons. B.A. (S.S.) (UNISA)
Honours Bachelor of Arts in Social Work: Hons. B.A. in Social Work (US) or Hons.B.A. (S.W.) (UZ)
Hons. B.A. in Social Work (Medical Social Work field) (US)
Hons.B.A. in Social Work (Supervision) (US)
Bachelor of Arts in Social Work with Honours: B.A. (Social Work) Hons. (UW)

Master of Social Science: M.Soc.Sc. (UCT, UN, RU)
Magister Artium in Social Work: M.A.(S.W.) (UDW, UPE, UWC)

Master of Arts in Social Work: M.A.(S.W.) (UFH, UNORTH, UP, RAU, UZ) or M.A. (Social Work) (UW)
Magister Societatis Scientiae in Social Work: M.Soc.Sc. (Social Work) (UOFS)
Magister Artium (Social Work): M.A. (S.W.) (PU for CHE)
Master of Arts in Social Science: M.A.(S.S.) (UNISA)
Master of Arts in Social Science in Mental Health: M.A.(S.S.)(Mental Health) (UNISA)
Master of Arts in Social Work: M.A. in Social Work (US)
M.A. in Social Work (Medical Social Work field) (US)
Master of Medical Science in Social Work: M.Med.Sc. (S.W.) (UDW)
M.A. in Social Work (Supervision) (UP)
M.A. in Social Work (Medical Social Work) (UP)
Master of Philosophy: M.Phil. (UCT)

Doctor of Philosophy: Ph.D. (UCT, UN, RU, UW)
Doctor of Social Science: D.Soc.Sc. (UCT, UN, RU)
Doctor Philosophiae: D.Phil. (UDW, UPE, RAU, US, UWC)
Doctor of Philosophy: D.Phil. (UFH, UNORTH, UP, UNISA, UZ)
Doctor Societatis Scientiae in Social Work: D.Soc.Sc. (Social Work) (UOFS)
Doctor Philosophiae (Social Work): D.Phil. (S.W.) (PU for CHE)
Doctor of Literature: D.Litt. (UW)

DIPLOMAS

Advanced Diploma in Social Work: Adv. Dip.(S.W.) (UCT)

Admission requirements: The B.Soc.Sc. degree with Social Work or the Diploma in Social Science (Social Work) or an equivalent qualification.

Duration: At least one year.

Higher Diploma in Social Work (UFH)

Admission requirements: A B.A. degree with Social Work as a major subject. Persons who do not qualify for admission to the Honours course will be admitted.

Duration: Fifteen months.

Postgraduate Diploma in Social Work: Post-Grad.Dip.Soc.Work. (UN)

Admission requirements: The B.Soc.Sc.degree.

Duration: One academic year

Diploma in Advanced Social Work (UPE)

Admission requirements: Registered social workers in possession of a three-year diploma.

Duration: Two years of part-time study.

Advanced Diploma in Social Work: Adv.Dip.Soc.Work (RU)

Admission requirements: The degree of B.Soc.Sc. (Soc. Work)

Duration: One year of full-time study.

Diploma in Social Work (UWC)

Admission requirements: A Senior Certificate

Duration: Four years of full-time study. The rules for the B.A. (S.W.) degree are applicable.

Higher Diploma in Advanced Social Work Practice: H.Dip.Ad.Social Work Prac. (UW)

Admission requirements: A B.A. degree in Social Work.

Duration: Two years of part-time study.

Higher Diploma in Community Organisation: H.Dip.Com.Org. (UZ)

Admission requirements: The degree of B.A.(S.W.) or the Diploma in Social Work.

Duration: One year.

Note: The Huguenot College at Wellington and the Minnie Hofmeyer College at Worcester both offer the Diploma in Social Work. Students at the Huguenot College may also study for the B.Diac degree offered by UNISA.

The following degrees may be awarded by UNISA to students of the Huguenot College, Wellington:

Bachelor of Diaconiology: B.Diac.
Honours Bachelor of Diaconiology: Hons.B.Diac.
Master of Diaconiology: M.Diac.
Doctor of Diaconiology: D.Diac.

VOCATIONAL SERVICE: Social work deals with the effective social functioning of man within, and outside the family context in groups and in the community. In addition to handling the usual problems which arise in the individual and family context, such as, for instance, marital problems, adoptions, drug addiction and othe personal problems, the social worker is also faced by the challenge to assist in finding solutions to problems in respect of personal and social adaptation which threaten nations, and more particularly the youth of today. The aim of the social worker is therefore to assist people from all spheres and groups of society to help themselves, to enable them once again to play a meaningful part in society by including them in the normal social and economic service set-up. Three primary methods are applied to cope with the work, viz case studies, social group work and community work. Apart from particular personality traits, the social worker must have professional training (degree or diploma) which will equip him for the demands of this specialised profession.

The professional status of the social work profession is legally protected as practising social workers are obliged to register with the Council for Social and Associated Workers. In addition, the ethical code of the profession is laid down and the interests of the social worker are protected and promoted by various professional bodies.

At present the Public Service is one of the largest employers of men and women who have qualified in the social sciences. The activities comprise such a broad field that provision has been made for a large number of high professional posts. The Departments which are concerned with welfare and related services, are those of National Health and Population Development, Home Affairs and Development Aid.

Other bodies which render social services or where social work is secondary to the main aim are, for example, The South African National Council on Alcoholism and Drug Dependence, the Christelike Maatskaplike Raad, hospitals, municipalities, prisons, the Defence Force, child welfare associations, marriage bureaux, the mines, Iscor, Sasol and other large industrial concerns. Important posts in personnel management are at present held by social workers, whereas persons with the necessary qualifications and experience may obtain posts as lecturers at universities. The subject Social Work is not restricted to the profession of social work. As a subject for practically any B.A. field of study, it is of particular value to ministers, nurses, teachers, psychologists, sociologists, and so on.

SPEECH THERAPY AND AUDIOLOGY/LOGOPAEDICS

Universities: UCT, UDW, UP, UW

FIRST DEGREES

Bachelor of Science (Logopaedics): B.Sc.(Log.) (UCT)

Bachelor of Speech and Hearing Therapy (UDW)

Bachelor of Speech Therapy and Audiology: B.Log. (UP)

Bachelor of Arts in Speech and Hearing Therapy: B.A. (Sp. & H. Therapy) (UW)

Additional admission requirements:

UCT: A pass in Mathematics HG or at least 50 % in Mathematics SG. Students must be in good health and emotionally stable with normal hearing. The first six months of the course are probationary.
UDW: A pass in Mathematics HG or a science subject HG, or at least 50 % SG in these subjects.
UP: As for the B.A. degree (see ARTS) and preferably with passes of above 40 % in Mathematics as well as in Biology and/or Physical Science.
UW: As for the B.A. degree (see ARTS) with a pass in Mathematics HG or at least 50 % in Mathematics SG.

Duration: Four years of full-time study.

POSTGRADUATE DEGREES

Master of Science (Logopaedics): M.Sc.(Log.) (UCT)
Master of Audiology (UDW)
Master of Speech Pathology (UDW)
Master of Speech Therapy and Audiology: M.Log. (UP)
Master of Arts in Audiology: M.A.(Audiology) (UW)
Master of Arts in Speech Pathology: M.A. (Speech Pathology) (UW)

Doctor of Philosophy: Ph.D. (UCT, UW)
Doctor of Philosophy: D.Phil. (UP)
Doctor of Literature: D.Litt. (UW)

DIPLOMA

Diploma in Speech and Hearing Therapy (Community Work): Dip.Sp.& H.Th. (Comm.Wk.) (UW)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Duration: Two years of full-time study.

VOCATIONAL SERVICE: To initiate and maintain normal relations, every individual should be able to communicate with his fellow men. Speech Therapy and Audiology are the specialist fields which entail studying problems and abnormalities in human communication. This includes diagnosing and treating children and adults with speech, voice, language and hearing abnormalities. It is the speech therapist's and the audiologist's task to assist these persons in the rehabilitation process. Communication problems which the speech therapist encounters are, for example, speech defects which arise as a result of hearing defects, problems with certain sounds, stuttering, reading difficulties, the cleft palate and brain damage which has a deleterious effect on speech, voice aberrations (e.g. hoarseness), deviations which originate as a result of psychological problems, et cetera.

Speech therapists and audiologists are employed, inter alia, by the various education departments, speech and hearing clinics attached to universities, hospitals, special schools (e.g. for cerebral-handicapped, the deaf, learning-handicapped etc.) and medical personnel such as ear, nose and throat specialists. The speech therapist and audiologist can also open a private practice. The profession's interests are served by the South African Speech and Hearing Association.

TEXTILE SCIENCE

University: UPE

FIRST DEGREE

Magister Scientiae in Textile Science: M.Sc. in Textile Science

Admission requirements: A candidate must hold one of the following minimum qualifications:

- B.Sc.(Textiles) degree
- Diploma in Textile Engineering obtained at a recognised technical high school or university overseas, and which is recognised as being equivalent to a B.Sc.Hons.degree
- B.Sc.Hons. degree in Chemistry, Physics, Mathematics or Mathematical Statistics.

All candidates, except those who hold the first-mentioned degree, must pass an admission test in one or more fields of study in Textiles and/or Textile Technology.

Duration: One of the following fields may be selected for research: Textile Chemistry, Textile Physics, Mechanical Processing, Textile Engineering.

All candidates should be employed by a well established textile laboratory having the necessary research facilities.

DOCTOR'S DEGREE

Philosophiae Doctor in Textile Science: Ph.D. in Textile Science.

VOCATIONAL SERVICE: The textile industry in South Africa is an important source of future growth and job opportunities. Owing to its phenomenal expansion, this powerful industry offers wonderful opportunities for men and women trained as textile technologists. The prospects are obvious. Textile scientists are received with open arms, particularly by textile manufacturers in the following sections, for example: scouring, carbonising, carding and combing, drawing and spinning, knitting, weaving, dyeing and finishing and quality control. Graduates are also employed by, for example, the SA Wool and Textile Research Institute of the CSIR and the test laboratories of the SABS.

THEOLOGY/DIVINITY

Universities: UDW, UFH, UN (Pietermaritzburg), UNORTH, UOFS, PU for CHE, UP, RU, UNISA, US, UWC, UZ

FIRST DEGREES

Baccalaureus Theologiae: B.Theol. (UDW)

Bachelor of Theology: B.Theol. (UFH)

Bachelor of Theology: B.Th. (UN, UNORTH, RU, UZ)

Baccalaureus Theologiae: B.Th. and the Diploma in Theology (Integrated course) (UWC)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Duration: Three years of full-time study at UNORTH; three or four years at UFH, and four years at UDW, UN, RU, UWC and UZ.

Bachelor of Arts: B.A.

UN offers both Biblical Studies and Religious Studies as major subjects in which two qualifying courses are offered. An Honours course is offered in each of these subjects.
UCT offers Religious Studies and UW Biblical and Religious Studies as major subjects for the B.A. degree.

Bachelor of Theology: B.Th. (UNISA)

Admission requirement: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Duration: At least three years and not more than ten years.

Baccalaureus Artium with endorsement Theology: B.A. (UP)

This three-year degree course is offered to students who wish to be admitted to the B.D. degree.

Bachelor of Theology (Arts): B.Th.(Art): (UZ)

Admission requirements: As for the B.Th. degree.

Duration: Three years.

POSTGRADUATE DEGREES

Baccalaureus Divinitatis: B.D. (UDW)

Baccalaureus Theologiae: B.Th. (UOFS)

Bachelor of Divinity: B.D. (UNISA)

Bachelor of Theology: B.Th. (US)

Admission requirements:

UDW: A B.A. degree with Greek (Ancient) II or Hellenistic Greek II and Classical Hebrew II and Latin I or German I.
UOFS: A B.A. degree with Greek II, Hebrew II, Biblical Studies I or Theology I, Latin Special or German Special or a reading knowledge of German (if the candidate did not pass Latin or German in the Std. 10 examination).
UNISA: A B.A. degree with Classical Hebrew II, Greek II or Hellenistic Greek II, Latin I or Latin Special.
US: A Bachelor's degree with Hebrew II and Greek II, or an approved two-year course in Hebrew and Greek.

In view of prescribed work students are strongly advised to acquire a reading knowledge of German by taking Special German or German I, if necessary.

Duration: Three years of full-time study. At least three years at UNISA.

Theologiae Baccalaureus: Th.B. (PU for CHE)

Admission requirements: A B.A. degree with Semitic Languages II, Greek II, Philosophy I and Latin Special, or a pass in Latin in the Std 10 examination; and a reading knowledge of German.

Duration: Four years of full-time study.

Baccalaureus Divinitatis: B.D. (UP)

Admission requirements:

Division A - Dutch Reformed Church of Africa (Ned. Hervormde Kerk van Afrika): A Bachelor's degree with Greek II, Hebrew II, Biblical Studies I, Philosophy I; and one of the following: Latin, a modern language, Psychology, Anthropology. Greek and/or Hebrew must be a major subject. A student must have passed Std 10 Latin or Latin Special. He must have a reading knowledge of German and preferably also French.

Division B - Dutch Reformed Church (Nederduitse Gereformeerde Kerk): A B.A. degree with the endorsement Theology, or a Bachelor's degree with Biblical Studies III, Greek (including New Testament Greek) II or Hellenistic Greek II, Classical Hebrew II, and a reading knowledge of German.

Duration: Three years of full-time study.

Bachelor of Divinity: B.D. (RU)

Admission requirements: A B.Th. or other Bachelor's degree.

Duration: Three years. Candidates who hold the B.Th. degree or a B.A. degree with credits in certain subjects may be exempted from some courses.

Licentiate in Theology (US)

Students who have obtained the B.Th. degree may be admitted to the fourth year course to obtain the Licentiate in Theology.

The curriculum consists of a dissertation and continued study in the six subjects which were taken for the B.Th. degree.

Honours Baccalaureus Theologiae: B.Th.Hons. and the Licentiate in Theology (UWC)

Admission requirements: A student who obtained an average of at least 60 % in the examination in the five subjects required for the final year of the B.Th. degree may be admitted to the B.Th.Hons. degree.

A student who obtained the Diploma in Theology or whose average was below 60 % in the required subjects will be admitted to the Licentiate in Theology.

Duration: Two years.

Honoris Baccalaureus Artium (Theologiae): B.A. (Theol.) (Hons.) (UDW)
Bachelor of Theology (Honours): B.Theol.(Hons.) (UFH)
Bachelor of Arts (Honours): B.A. Hons. (UN)
Bachelor of Theology Honours: B.Th. Hons. (UNORTH)
Bachelor of Theology with Honours: B.Th.(Hons.) (RU)
Honours Bachelor of Theology: Hons. B.Th. (UNISA) or B.Th. (Hons.) (UZ)

Magister Divinitatis: M.Div. (UDW)
Magister Theologiae: M.Theol. (UDW) or M.Th. (UOFS, UWC)
Master of Theology: M. Theol. (UFH) or M.Th. (UNORTH, RU, UNISA, US, UZ)
Master of Arts: M.A. (UN)
Theologiae Magister: Th.M. (PU for CHE)

Doctor Divinitatis: D.D. (UDW, UP)
Doctor Theologiae: D.Theol. (UDW) or D.Th. (UOFS, UWC)
Doctor of Theology: D.Theol. (UFH) or D.Th. (UNORTH, UNISA, US, UZ)
Doctor of Philosophy: Ph.D. (UN, RU)
Theologiae Doctor: Th.D. (PU for CHE)
Doctor of Divinity: D.D. (RU)

CERTIFICATES AND DIPLOMAS

Certificate in Theology (UDW)

Admission requirements: As determined by the Senate after consultation with the respective denominations.

Duration: Three years of full-time study.

Certificate in Theology: Cert.Th. (UZ)

Admission requirements: A student who holds the B.Th. degree, but does not qualify for the B.Th.(Hons.) degree, and who is required by his church to complete a five-year course in theology for professional purposes, enrols for this Certificate in his fifth year of study.

Duration: One year.

Diploma in Theology (UFH)

Admission requirement: A Senior Certificate or mature non-matriculants.

Duration: Three or four years of full-time study.

Diploma in Theology (RU)

Admission requirement: Mature non-matriculants.

Duration: Three years of full-time study.

Diploma in Theology: Dipl. Th. (UNORTH)

Admission requirements: A Senior Certificate.

Duration: Three years of full-time study.

Higher Diploma in Theology: H.Dipl.Th. (UNORTH)

Admission requirements: The Lower Diploma in Theology or the B.Th. degree.

Duration: The curriculum is the same as that for the B.Th.Hons. degree.

Diploma in Theology (UNISA)

Admission requirements: A Senior Certificate or equivalent certificate.

Duration: At least two years.

Diploma in Theology (UZ)

Admission requirements: Matriculation Certificate or a Senior Certificate (Matriculation Exemption).

Duration: Four years of full-time study.

Postgraduate Diploma in Theology (UOFS)

Admission requirements: A B.Th. degree or an equivalent qualification.

Duration: At least one year.

Postgraduate Diploma in Theology (UP)

Admission requirements: A B.D. degree or an equivalent qualification.

Duration: One year of full-time study. A candidate who wishes to be trained as a minister of the Dutch Reformed Church (Ned.Geref.Kerk) must obtain this Diploma as well.

VOCATIONAL SERVICE: Even more than in the case of most of the other fields of study, intending students should obtain clarity beforehand about questions centering around a study of Theology. As South Africa is a country in which there is religious tolerance and the many denominations are allowed to pursue and to expand their activities virtually without any restrictions, and because they differ so much from one another as regards their organisation, training and conditions of service of clergymen, etc., it is impossible to give comprehensive details about all of them. It is therefore recommended that interested persons should of their own account obtain the required information from authoritative sources in their particular church organisations.

Career opportunities for students in theology are not limited to that of clergyman in the various church denominations. Bible translating, Christian publications, radio and television, work among the youth and teaching are other possibilities for the trained theologist.

TOWN AND REGIONAL PLANNING

Universities: UCT, UN, UOFS, PU for CHE, UP, US, UW

FIRST DEGREES

Baccalaureus Artium et Scientiae (Planning): B.Art. et Scien. (Planning) (PU for CHE)
Bachelor of Science in Town and Regional Planning: B.Sc. (T.R.P.) (UW)

Additional admission requirements: A pass in Mathematics HG or at least a C symbol (60 %) in Mathematics SG.

Duration: Four years of full-time study.

Bachelor of Town and Regional Planning: B.(Town and Regional Planning) (UP)

Additional admission requirements: A pass in Mathematics HG or at least 50 % in Mathematics SG.

Duration: Four years of full-time study. Students who hold another Bachelor's degree may be admitted to the extramural degree course which extends over three years.

MASTER'S DEGREES

Master of City and Regional Planning: M.C.R.P. (UCT)

Admission requirements: A Bachelor's degree.

Duration: Two years of full-time study.

Master of City Planning and Urban Design: M.C.P.U.D. (UCT)

Admission requirements: A degree in Architecture.

Duration: Two years of full-time study.

Master of Town and Regional Planning: M.T.R.P. (UN)

Admission requirements: A Bachelor's degree in a discipline acceptable to the Senate.

Duration: Two years of full-time study.

Master of Science in Urban and Regional Planning: M.Sc. U.R.P. (UN)

Admission requirements: A degree in Architecture, Building, Engineering, Land Surveying, Town Planning or Quantity Surveying or a graduate who holds a Bachelor's degree in another approved field.

Duration: One year of full-time research or two years of part-time research.

Master in Town and Regional Planning: M.T.R.P. (UOFS)

Admission requirements:

(i) Persons who hold a degree in Town and Regional Planning or an equivalent qualification.

(ii) Persons with little or no training in planning and related fields, but with a four-year degree or an Honours degree in an appropriate field, or who hold other suitable professional qualifications.

Duration:

(i) Two years for those admitted under (i).

(ii) Two years of full-time study or three years of part-time study for those admitted to the course under (ii).

Master of Town and Regional Planning: M. of Town and Regional Planning (US)

Admission requirements: One of the following degrees:

- B.A. with at least one of the following as a major subject: Geography, Economics, Sociology, Psychology, Public Administration, Development Administration

- B.Sc. with at least one of the following as a major subject: Geography, Geology, Mathematics, Applied Mathematics, Mathematical Statistics or Psychology
- B.Sc. in Agriculture (Agricultural Economics) or B.Sc. in Forestry
- B.Com. or B.Admin. or B.Econ.
- Bachelor's degree in Architecture, Civil Engineering or Land Surveying.

Duration: Two years of full-time study.

M. in Town and Regional Planning (Urban Design) (US)

Admission requirements: A Master's degree in Town and Regional Planning or a four-year Bachelor's degree in Town and Regional Planning or a Bachelor's degree in Architecture.

Duration: Two years.

Magister Artium et Scientiae (Planning): M.Art. et Scien. (Planning) (PU for CHE)
Master of Town and Regional Planning: M. (Town and Regional Planning) (UP)
Master of Science in Town and Regional Planning: M.Sc. (T.R.P.) (UW)
Master of Environmental Planning: M.E.P. (UW) (with specialisation either in Town and Regional Planning or in Urban Design)

DOCTOR'S DEGREES

Doctor of Philosophy: Ph.D. (UCT, UN, UW)
Philosophiae Doctor: Ph.D. (UOFS)
Doctor Philosophiae: D.Phil. (PU for CHE, US)
Doctor of Town and Regional Planning: D. (Town and Regional Planning) (UP)
Doctor of Town and Regional Planning: D. (T.R.P.) (UW)
Doctor of Science in Town and Regional Planning: D.Sc. (T.R.P.) (UW)

DIPLOMA

Higher Diploma in Planning for Developing Areas: H.Dip.P.D.A. (UW)

Admission requirements: A Bachelor's degree in Architecture, Town and Regional Planning, Building, Civil Engineering or Land Surveying, or a B.A. or B.Sc. degree with three courses in Economics or Geography or Sociology, or at least two courses in each of two of these subjects or other subjects cognate to the study of planning for developing areas, or other satisfactory degree.

Duration: One year of full-time study.

VOCATIONAL SERVICE: Owing to population growth and urban development, as well as increasing industrialisation and decentralisation, a pressing need currently exists for thorough planning of urban and other areas. The town and regional planner investigates and plans the most beneficial way in which town, city and regional planning can be done. In this process consideration is given to economic, sociological, geological, architectural, industrial and geographical facets which are all essential for the streamlined functioning of a city or region to the communal benefit. The planner serves to a large extent as a link between architect and engineer, between economist and sociologist and between public interests and industry.

Town and regional planners are employed, inter alia, by the Departments of Development Aid, Public Works and Land Affairs, Home Affairs and Constitutional Development and Planning as well as provincial administrations. Some have their own private practices.

Additional training in planning is of exceptional value to the civil engineer, architect or land surveyor and may lead to senior posts, particularly in the Public Service. Postgraduate study will also be required for appointment to a post as lecturer at a university. There are academic posts at some technikons as well.

Also consult Tertiary Training for particulars on the National Diploma in Town and Regional Planning.

TRANSLATION

Universities: RU, UNISA, US, UW

FIRST DEGREES

Bachelor of Arts (Translation): B.A.(Trans.) (RU)

Additional admission requirements: As for the B.A. degree. See ARTS.

Duration: Three years of full-time study.

Master of Arts in Translation: M.A.(Translation) (UW)

Admission requirements: A graduate in any faculty and in addition, an applicant must satisfy the Senate by means of an entrance examination that he is proficient in at least three languages including at least one official language. A candidate who wishes to proceed to the Court Interpreting option must be proficient in both official languages.

Duration: Two years of full-time study. The curriculum comprises Parts I and II, each part extending over one year of full-time study. Part II provides for the selection of two options, namely Translating or Court Interpreting.

DIPLOMAS

Postgraduate Diploma in Translation: Dip.Trans. (RU)

Admission requirements: A candidate must have been admitted to a degree approved for the purpose; or have been admitted to the status of such degree; and have satisfied the requirements for the Translation Aptitude Test.

Duration: At least one year.

Diploma in Translation: (UNISA)

Admission requirements: A candidate must

- hold at least a Bachelor's degree;

- for purposes of the course, select two languages: provided that at least one of the languages must be an official language; and
- have a high degree of proficiency in these two languages.

Duration: At least one academic year.

Postgraduate Diploma in Translation (US)

Admission requirements: A Bachelor's degree which has been approved for this purpose. Candidates must pass a language proficiency test.

Duration: One year of full-time study. Each student is required to work for at least a month in an approved office for translation during the winter vacation.

VOCATIONAL SERVICE: South Africa with its multilingual population, two official languages and rapidly developing international contacts in the fields of commerce, science and technology has a growing need for highly qualified translators and interpreters.

A translator is essentially a language mediator, opening up channels of communication in areas ranging from legislation, and the reports of Government commissions to workshop instruction manuals, recipes and scientific research papers. A trained translator will be recognised as an authority on language generally, and thus he must develop a sensitive insight into many aspects of language behaviour.

Translators sometimes have to act as interpreters (oral translators). But, although allied to translating, and although the basic training is the same, interpreting is a different profession.

Apart from an excellent command of at least two languages, the translator must have a versatile mind that is capable of operating with ease in various fields. He should also be able to grasp complex and subtle concepts in the source language, and reflect them effectively in the target language. He should be a person with wide interests and be well informed on topical matters such as those of a political, economic, educational, social, scientific and technological nature.

The Government employs a large staff of translators in the State Language Services of the Department of National Education. Other important employers are the Language Services of the SA Defence Force, the provincial administrations, the larger municipalities, SA Transport Services, the CSIR, HSRC, SABC and SATV. Most Black states employ translators and terminologists in their administrations. In the private sector translators are employed by mining houses, banks, advertising agencies, newspapers and insurance companies.

VETERINARY SCIENCE

Universities: MEDUNSA, UP

FIRST DEGREES

Bachelor of Veterinary Medicine and Surgery: B.V.M.,Ch. (MEDUNSA)

Bachelor of Veterinary Science: B.V.Sc. (UP)

Additional admission requirements:

MEDUNSA: A pass of at least 40 % in Mathematics HG or at least 50 % in Mathematics SG and a pass in Physical Science SG and in Biology SG. As only a limited number of candidates can be admitted, students are selected on merit.
UP: As for the B.Sc. degree. See PURE NATURAL SCIENCES. As only a limited number of candidates may be admitted, students are selected on merit. As the closing date for admission to the course is 31 August, the basis of selection of matriculants would be the average percentage obtained in the Std 9 examination.

Duration: Six years of full-time study at MEDUNSA and five and a half years of full-time study at UP.

POSTGRADUATE DEGREES

Bachelor of Veterinary Science (Honours): B.V.Sc.(Hons.) (UP)

Master of Veterinary Science: M.Med.(Vet.) (MEDUNSA)
Master of Veterinary Medicine: M.Med.Vet. (UP)

Doctor of Veterinary Science: D.V.Sc. (MEDUNSA, UP)

DIPLOMA

Diploma in Community Health (Vet.)(Postgraduate) (UP)

Admission requirements: A candidate must have held the B.V.Sc. degree or equivalent for at least one year and be registered with the South African Veterinary Board as a veterinary surgeon.

Duration: Two years of part-time study.

VOCATIONAL SERVICE: The function of the Faculty of Veterinary Science is to prepare men and women graduates to become practitioners, lecturers and researchers in the science and art of veterinary medicine. Veterinarians strive to protect the health of livestock, poultry and companion animals and to support public health programmes. Like most biomedical careers, it is a way of life that requires strong vocational motivation and dedication. The following branches of veterinary science offer challenging employment opportunities:

- Private practice, sometimes in partnership with other veterinary surgeons. Some specialise and treat only cattle and small stock; companion animals; race horses; poultry or pigs.

- Pharmaceutical industry; experimental animal units; wild life management; zoological gardens; societies for the protection of animals; municipalities, and the abattoir industry employ veterinary surgeons.

- Government departments such as the SA Police and the SA Defence Force, as well as the Department of Agriculture and Water Supply where they are concerned with

  - research on a large and intensive scale in the research institute at Onderstepoort. Here there are opportunities to specialise in one of more than twelve sections. Activities also include the manufacture and distribution of vaccines.

  - Field service and guidance, which includes visits to farmers, assistance to government departments, routine laboratory duties etc. A Government veterinary surgeon is also assisted by a number of cattle inspectors at outposts in his area.

- There is also the possibility of a lecturing post at the University of Pretoria and MEDUNSA.

Also consult Tertiary Training for particulars on the National Diploma in Veterinary Technology.

WILD LIFE MANAGEMENT

University: UP

FIRST DEGREE

Bachelor of Science in Wild Life Management (Honours): B.Sc. (Wild Life Management)(Hons.)

Admission requirements: Only a limited number of candidates are admitted annually. Written applications for admission must be submitted to the Holder of the Eugène Marais Chair in Wild Life Management, Department of Zoology, University of Pretoria, before 15 October each year. Candidates must hold a B.Sc., B.Sc.(Agric.), B.Sc. (Forestry) or B.V.Sc. degree. Candidates who hold a B.Sc. degree must have majored in at least one biological subject.

Duration: At least one year of full-time study.

POSTGRADUATE DEGREES

Master of Science in Wild Life Management: M.Sc. (Wilf Life Management)
Doctor of Science in Wild Life Management: D.Sc. (Wild Life Management)

VOCATIONAL SERVICE: Organised institutions in the RSA employ qualified persons to render professional services in connection with the conservation of the country's fauna and flora. Some of these organisations concentrate on protection and research in respect of fauna, others more exclusively as regards flora. Graduates are employed as professional officers. They must be in possession of a B.Sc. degree and must be prepared to continue with appropriate postgraduate studies and research.

These bodies are some government departments; the departments of nature conservation of the provincial administrations; the National Parks Board; the Oceanographic Research Insitute, Durban; the CSIR; the Natal Herbarium, Durban; The Moss Herbarium, University of the Witwatersrand; the Compton Herbarium, Newlands, Cape; the Bolus Herbarium, University of Cape Town and a number of museums scattered throughout the country.

WOOD SCIENCE

University: US

FIRST DEGREE

Bachelor of Science in Wood Science: B.Sc. in Wood Science

Additional admission requirements: As for the B.Sc. in Forestry. See FORESTRY.

Duration: Four years of full-time study. In their fourth year students may enrol for the Forest Exploitation field. The first three years are the same as that for the B.Sc. in Wood Science.

Students are required to do practical work during vacations and to undertake study tours.

POSTGRADUATE DEGREES

Honours Bachelor of Science in Wood Science: B.Sc.Hons. in Wood Science

Master of Science in Wood Science: M.Sc. in Wood Science

Doctor of Philosophy (Wood Science): Ph.D. (Wood Science)
Doctor of Science in Wood Science: D.Sc. in Wood Science

VOCATIONAL SERVICE: Because of the large variety of industries using wood as a raw material, the wood scientist has a wide choice of career possibilities, for example in sawmilling, the manufacturing of wood boards, the pulp and paper industry, wood preservation industry, etc. There are also excellent opportunities in research which is mainly undertaken by the National Timber Research Institute of the CSIR and the University of Stellenbosch. The wood section of the SABS which is responsible for standardisation in the wood industry also offers career possibilities.

Also consult Tertiary Training for particulars of the National Diplomas in Pulp and Paper Technology and in Timber Technology.

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Orthopaedic Surgery: 170
Painting: 143
Palaeontologist: 214,215
Parks and Recreation Administration: 197
Pastoral Psychology: 68

Pasture Science: 44,45,50
Pedology: 197
Performance (Music): 176
Performing Art (Music): 176
Personnel Guidance: 198
Personnel Management: 38,40,80,85, 87,198,199
Personnel Manager: 80,88,89
Personnel Officer: 72,89
Personnel Psychologist: 88
Pharmacology: 201
Pharmacy: 199-202
Philosophy: 66
Photogrammetry: 155
Photography: 143
Physical Education: 202,203
Physical Metallurgy: 137
Physicist: 217
Physiologist: 217
Physiotherapy: 204-206
Physiotherapy Education: 205
Planning: 233-236
Planning for Developing Areas: 235
Plant Nutrition: 44
Plant Pathology: 44,50
Plant Production: 44,49
Plant Sciences: 212
Play Production: 101
Police Science: 206
Political Science: 67
Politician: 73
Printmaking: 143
Private Secretary: 73,222
Production/Industrial Engineering: 137,140
Production Manager: 87
Programme Organiser (radio): 61,103
Psychiatrist: 69,170
Psychology: 68,80,85
Psychometrist: 68
Public Accountant: 36
Public Administration: 39-43,80,85
Public Finance: 38
Public Finance and Auditing: 36,42
Public Health: 171
Public Prosecutor: 159
Public Relations Officer: 73
Purchasing Management: 85,87
Pure Natural Sciences: 206-219
Quality Control and Reliability: 138
Quantity Surveying: 219,220
Radiation Protection for Sisters: 221
Radiodiagnosis: 220
Radiographic Nuclear Medicine: 221
Radiography: 220-222
Radiography (Diagnosis) 220
Radiography Teaching: 221
Radiologist: 170,222
Recreation Management: 197,203
Recreation Science: 69,203
Regional Development: 85
Remedial Music: 178
Respiratory Physiotherapy: 205
Restorator: 174
Russian: 60
Sales Manager: 80
School Librarian: 164
Sculpture: 143
Secretarial Practice: 222
Secretary: 89
Semitic Languages: 62
Silviculture: 147,148
Silviculture - Nature Conservation: 147
Small Stock Science: 44,45
Social Anthropology: 63
Social Science: 222,223
Social Work: 223-227
Social Work Practice: 226

Social Work (Supervision): 224,225

Sociology: 69,80

Soil Science: 44,45,50,197

Spanish: 60

Specialist: See Medicine

Speech and Drama 100,101,102

Speech and Hearing Therapy: 227,228

Speech and Interpretation: 101

Speech Pathology: 227,228

Speech Therapy and Audiology: 227,228

Sport Journalist: 203

Sports Coaching and Recreation: 203

Stage Manager: 102

State Advocate: 160

State and Municipal Administration: 39, 41

State Attorney: 160

State Finance: 40

State Law Adviser: 160

Statistics: 80,85,218

Stores Administrator: 37

Surgery: 170

Surveying: 137,154,155

Systems Analysis: 153

Taxation: 158

Tax Law: 158

Teacher: 73,85,102,105-135,151

Technical Subjects: 75

Technical Training Teacher: 75

Television Actor: 102

Textile Science: 228,229

Theatre Sister: 189,190

Theatrical Art: 102

Theology: 229-233

Theory of Accountancy: 31,34,35,36

Theory of Music: 176

Therapeutic Radiography: 221

Town and Regional Planning: 233-236

Translation: 236,237

Translator: 72

Transport: 85,90

Transport Economics: 85,90

Tropical Health: 171

Tropical Medicine and Hygiene: 171

Urban and Regional Planning: 234

Urban Design: 234,235

Veterinary Science: 237-239

Viticulture and Enology: 44,49

Weed Science: 44

Wild Life Management: 239

Wood Science: 240

Zoology 218

APPENDIX A

Subjects not included in the JMB's list of subjects for the Matriculation Certificate recognised for exemption purposes when passed at other examinations (H = Higher Grade; S = Standard Grade):

GROUP C

Physiology H and S (not offered with Biology H or S)

GROUP D

Arabic S; Gujerati S; Hindi S; Tamil S; Telegu S

GROUP F

Accounting for Butchers S
Agricultural Economics S
Aircraft Electronics Theory S
Aircraft Instrument Trade Theory S
Aircraft Maintenance Theory S
Aircraft Metalwork Theory S
Aluminium Manufacture S
Anatomy and Music S
Animal Husbandry S
Armament Fitting Theory S
Armature Winding Theory S
Bakers' Theory S
Ballet S (Practical)
Bantu Administration S
Bantu Law S
Boatbuilding Theory S
Botany (Horticulture) S
Bricklaying and Plastering S
Bricklaying and Plastering Theory S
Building Construction Theory S
Building Drawing S
Business Practice (Butchers) S
Butchers' Theory S
Carpentry and Joinery Theory S
Carton Making Theory S
Coke and By-Product Process Theory S
Computer Science S
Computer Studies S and H
Construction Plant Trade Theory S
Design S
Diamond Trade Theory S
Diesel Electrical Theory S
Diesel Trade Theory S
Digital Electronics S
Drawing, Design and Modelling S
Electricians S
Electrician-work S
Electro Mechanics Theory S
Electronics S
Electroplating Theory S
Electrotechnology S
Electro Trade Theory S
Elevator Trade Theory S
Engineering Drawing S
Engineering Science S
Farm Mechanics S
Field Husbandry S
Ferro Metal Rolling and Shaping Processes Theory S
Fitting and Machining Theory S
Fitting and Turning S
Footwear Theory S
Foundry Theory S
Furniture Design S
Furniture Makers' Theory S
Furniture Polishing Theory S
Gemmology S
Graphic Art S
Gravure Machine Minding Theory S
Hairdressing Laboratory Work S
Hairdressing Theory S
Hand Composition S
History of Ballet, Costume and Theatre S
Horticulture (Practical) S
Horticulture Theory S
Hotelkeeping and Catering S
Housecraft S
Industrial Organization and Planning S
Industrial Science S
Institutional Management S
Instrument Trade Theory S
Introduction to Criminology and Ethnology S
Iron Production and Casting Theory S
Jewellers' Theory S
Landscape Planning S
Law of Criminal Procedure and Evidence S
Leather Manufacture S

Letterpress and Gravure Machine Minding Theory S
Letterpress Machine Minding Theory S
Literature (Afr.) S
Literature (Eng.) S
Lithography Theory S
Logic Systems S
Machine Composition Theory (Linesetting) S
Machine Composition Theory (Monotype) S
Maize Milling Technology S
Mathematics S
Mercantile Law S
Mechanotechnology S
Metallurgical Process Theory S
Metal Mining S
Metalwork S
Mine Surveying S
Mining (Geology) S
Mining (Machinery) S
Missiles S
Monotype Theory S
Motor Body Repairing/Repairs S
Motor Industry Legislation S
Motor Machining Theory S
Motor Mechanics S
Motor Trade Theory S
Motor Vehicle Construction S
Motor Vehicle Technology S
Motor Workshop Organization and Administration S
Moulders' Theory S
Music Composition S
National and Greek Dancing S
Needlework and Clothing S
Office Equipment Theory S
Packaging Theory S
Painting S
Painting and Decorating Theory S
Patternmakers' Theory S
Photography Trade Theory S
Photo Mechanics Theory S
Phototype Setting and Film Make-up Theory S
Plant Operation Theory S
Platemaking Theory S
Plating and Structural Steelworkers' Theory S
Plumbers' Theory S
Plumbing and Sheet Metalworking S
Practical Agricultue S (Shall not be offered with Animal Husbandry S, Farm Mechanics S or Field Husbandry S)
Practical Agriculture Science S
Practical Ballet S
Practical Music (Second Instrument or Singing) S
Precision Optics Theory S
Printers Calculation S
Printers Science S
Radar Trade Theory S
Radio and Television Theory S
Radio Theory S
Radiotricianwork S
Railway Signalling Theory S
Railway Vehicle Building Theory S
Reception Studies S
Refrigerator Trade Theory S
Restaurant Studies S
Rigging Theory S
Rotary Letterpress Machine Minding Theory S
Rubber and Plastic Fitting Theory S
Salon Management S
Salon Science S
Scale Fitters' Theory S
Science of Art S
Sculpture S
Sheet Metalworkers' Theory S
Shipbuilding Theory S
Signwriters' Theory S
South African Criminal Law S
Statute Law S
Steel Production and Casting Theory S
Stone-work Theory S
Supervision in Industry S
Survival Equipment Theory S
Tailors' Theory S
Technika (Civil) H and S
Technika (Electrical) H and S
Technika (Mechanical) H and S
Telecom Trade Theory S
Theory of Art S
Toolmakers' Theory S
Tractor Mechanics S
Upholstery and Trimming Theory S
Vehicle Building Theory S
Warehouse and Binding Theory S
Watchmaking S
Welders' Theory S
Welding and Metalworking S
Wheat Milling Technology S
Wood Machining Theory S
Woodwork S
Woodworking S
Woodworking Theory S

APPENDIX B

MAJOR SUBJECTS FOR B.A.(GENERAL) OFFERED IN THE FACULTY OF ARTS

African History: UCT, RU, UW
African Languages: UCT, RU, UNISA
African Literature: UW
African Political Studies: UCT, RU, UW
African Politics: UNISA
African Studies: US
African Thought and Literature: UFH
Afrikaans: UDW, UNORTH, UP, VISTA, UWC, UZ
Afrikaans and Netherlands Cultural History: UP
Afrikaans Cultural History: US
Afrikaans en Nederlands: UCT, UFH, UN, UOFS, UPE, PU for CHE, RAU, RU, UNISA, US, UW
Agricultural Economics: UNORTH
Ancient History: UCT, UNISA
Anthropology: UDW, UFH, UNORTH, UOFS, UPE, PU for CHE, UP, RAU, RU, UNISA, US, UWC, UZ
Applied Anthropology: UOFS, UP
Applied Psychology: UW
Arabic: UDW, UP, RAU, UNISA, UWC
Archaeology: UCT, UFH, UP, US, UW
Art: UDW
Biblical and Religious Studies: UW
Biblical Studies: All the universities except UCT, VISTA and UW
Church History: UNISA
Classical Civilization: UN, RU, UW
Classical Culture: US
Classical Hebrew: UDW, UNORTH, UNISA, UZ
Classical Studies: UDW, UZ
Communication: RAU, UNISA, UZ
Comparative African Government: UN, UNORTH
Computer Science: UN, UPE, PU for CHE, RAU
Criminology: UDW, UFH, UNORTH, UOFS. PU for CHE, UP, UNISA, UZ
Cultural History of Western Europe: UCT
Development Administration: UNORTH, PU for CHE, UNISA, US
Development Studies: UFH, RAU, UZ
Drama/Dramatic Art: UCT, PU for CHE, UP, US
Drama and Film: UW
Ecclesiastical History: RU
Ecclesiastical History and Missiology: UFH
Economic History: UCT, UN, RU, UW
Economics: All the universities
Education/Pedagogics: UFH, UNORTH, UPE, RAU, UNISA, VISTA
English: All the universities
Environmental and Geographical Science: UCT
Ethics: PU for CHE
Fine Art: UN
Fine Art Studies: RU
French: UCT, UDW, UN, UOFS, UPE, PU for CHE, UP, RAU, RU, UNISA, US, UWC, UW
General Linguistics: UNORTH, UOFS, UP, US, UZ
General Literary Studies: UNORTH, UOFS, UNISA
General Literary Theory and Linguistics: PU for CHE
Geography: All the universities except UCT. See Environmental and Geographical Science.
Geology: UCT
German: All the universities except UFH and VISTA
Greek: All the universities except UDW, VISTA and UWC
Greek (Ancient): UDW
Greek and Roman Literature and Thought: UCT
Gujarati: UDW
Health Development Administration: UNISA
Hebrew: UCT, UFH, UN, UOFS, UP, RAU, RU, US, UWC, UW
Hebrew Culture: UCT
Hellenistic Greek: UWC
Hindi: UDW
Hindu Studies: UDW
History: All the universities
History (African): UK, RU, UW
History and Philosophy of Science: UCT
History of Art: UCT, UDW, UFH, UN, UOFS, PU for CHE, UP, RAU, UNISA, UW
History of Music: UDW, PU for CHE, UP, UNISA, UW
History of Philosophy: UZ
Indian Philosophy: UDW

Indigenous Law: UP
Industrial and Organizational Psychology: UPE
Industrial and Personnel Psychology: PU for CHE
Industrial Psychology: RAU, US, UWC, UW
Industrial Sociology: UCT, UDW, UN, PU for CHE, RU, UW
International Politics: UNORTH, PU for CHE, UP, UNISA
International Relations: UW
Islamic Studies: UDW
Italian: UCT, UOFS, RAU, UNISA, US, UW
Jewish Religion: UCT
Jewish Studies: UN
Judaica: UNISA
Latin: All the universities except VISTA
Legal Theory: RU
Legal Theory and Institutions: UW
Linguistics: UCT, RAU, UNISA, UWC, UW
Linguistics and Communication: UN
Linguistics and English Language: RU
Logic: UNISA
Mathematical Statistics: UN, UPE, UP RAU, RU, UW
Mathematics: All the universities except US
Military History: UOFS
Modern Greek: RAU, UW
Modern Hebrew: UNISA
Money and Banking: PU for CHE
Municipal Government and Administration: UNISA
Music: UDW, UN, RU, US
Nederlands: UDW
Northern Sotho: UNORTH, PU for CHE, UP, RAU, UNISA, VISTA
Oriental Studies: UDW
Pedagogics/Education: UFH, UNORTH, UPE, RAU, UNISA, VISTA
Penology: UNISA
Persian: UDW
Philosophy: All the universities except VISTA
Physical Education: UNORTH, UPE, PU for CHE, RAU, US
Political Development: UNORTH
Political Philosophy: US
Political Science: UDW, UFH, UN, UNORTH, UOFS, UPE, PU for CHE, UP, RAU, UNISA, US, UWC, UZ
Political Studies: UCT, UW
Political Studies (Africa): UCT, RU, UW
Politics: RU
Portuguese: UNISA, UW
Practical Music: UZ
Private Law: UFH, UNORTH, UOFS, UPE, PU for CHE, RAU, UNISA, US, UWC
Psychology: All the universities
Public Administration: UDW, UFH, UNORTH, UPE, UP, UNISA, US, UWC, UZ
Recreation Science: PU for CHE
Religious Studies: UCT, UN
Roman-Dutch and Private Law: UCT
Roman-Dutch Law: UP
Roman Law: PU for CHE, UNISA
Roman Law and History of Law: UOFS
Roman Law and Jurisprudence: UWC
Russian: UNISA, UW
Sanskrit: UDW
Science of Religion: UDW, UNISA
Semitica/Semitic Languages: UPE, PU for CHE
Shona: UCT, UNORTH, UNISA
Social Anthropology: UCT, UN, UW
Sociology: All the universities
Southern African Economic History: UCT
Southern Sotho: UCT, UFH, UNORTH, UOFS, UPE, UNISA, US, VISTA, UW, UZ
Spanish: UN, UNISA
Speech and Drama: UDW, UN, RU, UZ
Speech and Interpretation: PU for CHE
Statistics: UCT, UDW, UN, PU for CHE, UNISA, US
Systematic Philosophy: UZ
Systematic Theology: UFH, RU, UNISA
Tamil: UDW
Telugu: UDW
Theatrical Art: PU for CHE
Theology: RAU
Theory of Music: UZ
Tsonga: UNORTH, UNISA
Tswana: UNORTH, PU for CHE, UNISA, VISTA
Urdu: UDW
Venda: UNORTH, UNISA
Xhosa: UCT, UFH, UPE, UNISA, US, VISTA, UWC
Zulu: UDW, UN, UOFS, PU for CHE, UP, RAU, UNISA, VISTA, UW, UZ

APPENDIX C

UNDERGRADUATE SUBJECTS OFFERED FOR B.COM. IN THE FACULTIES OF COMMERCE AND ECONOMIC SCIENCES

See COMMERCE for the major fields of study.

Accounting: All the universities
Accounting (Local Authorities): UNISA
Accounts of Executors, Liquidators and Trustees: UPE
Actuarial Science: US
Administration of Estates: UNORTH, UP, UNISA
Administrative Law: UP
Advertising: UN
Afrikaans: UDW, UN, UOFS, UP, RAU, RU, US, UW, UZ
Afrikaans en Nederlands: UN, RU, US, UW
Agricultural Economics: UFH, UN, UNORTH, UOFS, PU for CHE, US
Analytical Techniques: RAU
Anthropology: RAU
Applied Economics: UNISA
Applied Computer Science: UFH
Applied Psychology: UW
Auditing: All the universities except UWC and UW
Aviation Economics: US
Banking: UNISA
Business Administration: UN, RU
Business Communication: UFH, UW
Business Computer Science: UNORTH
Business Computer Systems: UW
Business Data Processing: UCT, UDW, UN, UOFS, RU
Business Economics: All the universities except UCT, UN and RU
Business Economics (Business Management): UPE
Business Economics (Financial Management): UPE
Business Economics (Marketing Management): UPE
Business Economics (Production Management): UPE
Business Finance: UN, UW
Business Information Systems: UW
Business Law: UNORTH, UP
Business Mathematics and Statistics: RU
Business Policies and Agreements: UN
Business Statistics: UWC
Calculation of Interest Rates: US
Commercial Computer Science: UPE, UP
Commercial Computer Systems: RAU
Commercial Law: UCT, UDW, UFH, UN, UNORTH, UP, RAU, UNISA, VISTA, UW, UZ
Communication: RAU
Company Law: UCT, UPE
Company Law and Taxation: UNORTH
Comparative African Government: UN
Comparative Legal History: UW
Computer Methods: RAU
Computer Science: UDW, UN, UNORTH, PU for CHE, RAU, RU, US, UWC, UW
Constitutional Law: UDW, UN, UW
Co-operation: UNORTH, UNISA
Cost Accounting: UNORTH, PU for CHE, UNISA, US
Cost and Management Accounting: UPE, RU, UWC, UW, UZ
Criminology: UW
Customary Law: RU
Data Processing: US
Development Administration: PU for CHE, UNISA, US
Development Economics: UDW, UFH
Development Studies: RAU, UZ
Distributive Trade: US
Econometry/Economic Statistics: UPE, PU for CHE
Econometric Methods: UP
Economic Analysis: UNORTH
Economic Development and the Economics of Underdeveloped Regions: UZ
Economic Geography: RU
Economic History: UDW, UN, UPE, PU for CHE, RU, UNISA, UW
Economics: All the universities
Economic Statistics/Econometry: UPE, PU for CHE
Education: RAU
Elementary Theory of Finance and Statistics: RU
End User Data Processing: UPE

English: UDW, UN, UNORTH, UP, RAU, RU, UW
English Special: UDW, UOFS, UPE
Environment and Structure of Business: UCT
Farm Management: UNISA
Financial Accounting: UNORTH, US
Financial Management: UCT, UN
French: UN, UP, UW
General Accounting: UPE
General Economics: RU
General Jurisprudence: UPE
General Psychology: UW
Geography: UN, UPE, UP, US, UW
German: UN, UP, UW
Hebrew: UN, UW
History: UN, UP
Income Tax: UNORTH, UPE, PU for CHE, UP, RAU, UNISA, US, UW, UZ
Income Tax and Administration of Estates: VISTA
Industrial and Organizational Psychology: UPE
Industrial and Personnel Psychology: PU for CHE
Industrial Law: UNORTH, UPE, UZ
Industrial Psychology: UDW, UFH, UNORTH, UOFS, RAU, UNISA, US, UWC, UW, UZ
Industrial Sociology: UN, PU for CHE, UW
Informatics: UP, RAU
Information Systems: UNISA
Insurance: PU for CHE
International Economic Relations and Organizations: UN
International Politics: UP
International Relations: UW
Introduction to Computer Science and Data Processing: UPE
Introduction to Econometry: UP
Introduction to Legal Science: PU for CHE
Introduction to Psychology: UPE
Introduction to Public Law: US
Introduction to South African Law: UW
Investment Decisions: UDW
Italian: UW
Labour Law: UN, PU for CHE, UP, UNISA
Labour Legislation: UN
Language and Communication: UN
Latin: UN, UNORTH, UOFS, UPE, UP, RAU, RU, US, UW
Law of Corporations and Insolvency: UW
Law of Property: UPE
Learning, Language and Logic: UN
Legal History: UOFS, PU for CHE
Legal Studies: UN
Legal Theory: RU
Logic and Methodology: UDW
Macro-economics: UPE
Management Accounting: UCT, UDW, UFH, UNORTH, UP, RAU, VISTA
Management Information Systems: UZ
Management Information Systems and Data Processing: UNORTH
Management of Human Resources: UCT
Managerial Accounting and Finance: UN
Manpower Strategy and Labour Relations: RAU
Marketing: UN, UW
Marketing and Physical Distribution: UNORTH
Marketing and Purchasing Research: UN
Marketing Management: UP
Marketing Research: UDW
Mathematical Methods for Economics: UDW
Mathematical Statistics: UN, UNORTH, UOFS, RAU, RU, US, UW
Mathematics: UCT, UDW, UN, UNORTH, UOFS, UPE, PU for CHE, RAU, RU, UNISA, US, VISTA, UW
Mathematics and Statistics: RU, UW
Mathematics for Economists: UPE
Mercantile Law: UOFS, UPE, PU for CHE, RAU, RU, UNISA, US, UWC
Micro-economics: UPE
Money and Banking: UOFS, PU for CHE
Municipal Administration: UDW
Operational Research: PU for CHE
Organisational Behaviour: UW
Personnel Management: UN, UP
Philosophy: UN, UW
Planning and Environmental Law: UP
Political Economy of Southern Africa: UN
Political Science: UN, UP, RAU, US
Political Studies: UW
Principles of Finance: UCT
Principles of Marketing: UCT
Private Law: UDW, UNORTH, UOFS, UPE, PU for CHE, RAU, UNISA, US, UWC
Property Economics: UW
Property Investment and Finance: US
Property Law: UPE
Psychology: UN, UPE, RU, VISTA, UW
Psychopathology: UPE

Public Administration: UDW, UPE, UP, US
Public International Law: UN, UW
Public Sector Accounting: UN
Purchasing Management: UN
Quantitative Management: UNISA
Quantitative Techniques: UNORTH
Regional Sociology: UPE
Retailing: UNORTH
Retail Management: UDW, UFH
Roman-Dutch Law: UP
Roman Law: UDW, UN, UNORTH, UPE, PU for CHE, UP, RAU, US, UW
Roman Law and Legal History: UOFS
Shorthand and Typewriting: US
Short-term Insurance: US
Social and Economic Legislation: UFH
Social Anthropology: UN
Social Psychology: UPE
Social Work Special: UPE
Sociology: UDW, UN, UPE, RAU, US, VISTA, UW, UZ
Sotho: UP
Spanish: UN
State Administration: UOFS
Statistical and Business Computing: UCT
Statistical Methods: UNORTH, US
Statistics: UCT, UDW, UFH, UN, UOFS, UPE, PU for CHE, UP, UNISA, US, UZ
Statistics and Actuarial Science: UW
Systematic Philosophy: UZ
Tax and Estate Planning: UN
Taxation: UN, UOFS, US
Taxation and Estate Duty: UCT, UDW, UFH
Transport Administration and Management: RAU
Transport Economics: UOFS, RAU, UNISA, US
Transport Issues in Economic Development: UZ
Typewriting: UOFS
Xhosa: UPE
Zulu: UN, UP

APPENDIX D

MAJOR SUBJECTS FOR B.SC. OFFERED IN THE FACULTY OF SCIENCE

Actuarial Science: UW
Advanced Chemistry: UW
Advanced Earth Science: UW
Applied Chemistry: UN, UW
Applied Computer Science: UFH
Applied Geology: UN
Applied Mathematics: All the universities except RAU
Applied Psychology: UW
Archaeology: UCT, UW
Astronomy: UNISA
Biochemistry: All the universities except UNISA
Biology: UFH
Botany: All the universities except RU
Cell Biology: UN
Chemistry: All the universities
Computer Science: UCT, UDW, UN, UNORTH, UOFS, UPE, PU for CHE, UP, RAU, RU, UNISA, US, UWC, UW
Dietetics: US
Ecology: UZ
Economics: UN, UPE, PU for CHE, RU
Entomology: UN, UOFS, UP, RU, US
Environmental and Geographical Science: UCT
Environmental Biology: UN
Exploration Geophysics: UP
General Psychology: UW
Genetics: UN, UOFS, UP, US, UW
Geochemistry: UOFS, US
Geography: All the universities except UCT and UPE
Geohydrology: UOFS
Geology: All the universities
Geophysics: UW
Human Physiology: UP
Hydrology: UN, UZ
Industrial and Personnel Psychology: PU for CHE
Industrial Psychology: UW
Information Systems: RAU, UNISA
Mathematical Statistics: UFH, UN, UNORTH, UOFS, UPE, UP, RAU, RU, US, UWC, UW, UZ
Mathematics: All the universities
Mathematics (Teaching): UW
Metallurgy: UP

Microbiology: UCT, UDW, UFH, UNORTH, UOFS, PU for CHE, UP, RU, UNISA, US, UW
Microbiology - Plant Pathalogy: UN
Music (in conjunction with Physics): RU
Operations Research: UNISA
Pedology: PU for CHE
Physical Education: UNORTH, PU for CHE, US
Physical Geography: UPE
Physics: All the universities
Physics with Electronics: RU
Physiology: UCT, UDW, UNORTH, UOFS, PU for CHE, UNISA, US, UWC, UW
Plant Pathology: US, UWC
Plant Protection: UWC
Plant Science: RU
Psychology: UDW, UFH, UN, UNORTH, UOFS, PU for CHE, RAU, RU, UNISA, US
Soil Science: UFH, UN, UNORTH
Statistics: UCT, UDW, UFH, UN, UOFS, PU for CHE, UNISA
Theoretical Chemistry: UN
Theoretical Physics: UCT, RAU
Zoology: All the universities

APPENDIX E

SUBJECTS IN WHICH THE B.A. HONS. DEGREE MAY BE CONFERRED

African Languages/Bantu Languages: UCT, UOFS, PU for CHE, UP, RAU, RU, UNISA, US, UW, UZ
African Political Studies: RU, UW
African Studies: UCT, PU for CHE, US
Afrikaans: UDW, UNORTH, UP, UWC, UZ
Afrikaans and Netherlands Cultural History: UP
Afrikaans Cultural History: US
Afrikaans en Nederlands: UCT, UFH, UN, UOFS, UPE, PU for CHE, RAU, RU, UNISA, US, UWC, UW
Agricultural Economics: UNORTH
Ancient History: UCT, UW
Anthropology: UDW, UFH, UNORTH, UOFS, UPE, PU for CHE, UP, RAU, RU, UNISA, US, UWC
Anthropology and Development Studies: UZ
Applied Anthropology (Development Science): UP
Applied Linguistics: UN, PU for CHE, RAU, UW
Applied Psychology: UW
Arabic: UDW, UNISA
Archaeology: UCT, UFH, UP, US, UW
Bantu Languages: See African Languages
Biblical and Religious Studies (History and Philosophy of Religions): UW
Biblical and Religious Studies (Scripture): UW
Biblical Languages: US
Biblical Studies: UFH, UN, UNORTH, UOFS, UPE, PU for CHE, UP, RAU, RU, UNISA, US, UWC, UZ
Business Economics: RAU
Classical Civilisation: UN, RU
Classical Cultural History: UOFS
Classical Culture: US
Classical Hebrew: UDW
Classical Studies: UDW
Classics: UCT, UN, UNORTH, UOFS, PU for CHE, RAU, RU, UNISA, US, UW, UZ
Clinical Psychology: US
Communication: UFH, PU for CHE, RAU, UNISA
Comparative African Government: UN
Comparative Linguistics: UW
Comparative Literature: UW
Comparative Philology: UW
Computer Science: UPE, RAU
Counselling Psychology: US
Criminology: UDW, UFH, UNORTH, UOFS, PU for CHE, UP, UNISA
Cultural History of Western Europe: UCT
Demography: RAU
Development Administration: UNORTH, PU for CHE, US
Development Administration and Politics: UNISA
Development Studies: UFH, RAU, UWC
Drama: UCT, PU for CHE, UP
Drama and Film: UW
Ecclesiastical History: UFH, RU

Economic History: UCT, UN, RU, UW
Economics: UFH, UN, UNORTH, UOFS, UPE, PU for CHE, UP, RAU, RU, UNISA, UWC, UW, UZ
English: All the universities
Environmental and Geographical Science: UCT
Fine Art: UN
French: UCT, UDW, UN, UOFS, UPE, PU for CHE, UP, RAU, RU, UNISA, US, UW
General Linguistics: UNORTH, UOFS, UP, US
General Linguistics and Literary Theory: PU for CHE
General Literary Studies: UNORTH, UOFS, UNISA
General Psychology: UW
General Sociology: UP
Geography: All the universities except UCT
German: UCT, UN, UNORTH, UOFS, UPE, PU for CHE, UP, RAU, RU, UNISA, US, UWC, UW
Greek: UCT, UFH, UN, UNORTH, UOFS, UPE, PU for CHE, UP, RAU, RU, UNISA, US, UW
Hebrew: UCT, UN, UW
Hindi: UDW
History: All the universities
History and Economic History: UN
History and Philosophy of Science: UW
History and Political Science: UN
History of Art: UDW, UFH, UN, UOFS, PU for CHE, UP, RAU, UNISA, UW
History of Music: PU for CHE, UW
Human Ecology: UWC
Indian Philosophy: UDW
Industrial and Organisational Psychology: UPE
Industrial and Organisational Sociology: UP
Industrial and Personnel Psychology: PU for CHE
Industrial Psychology: RAU, UWC, UW
Industrial Relations: UPE
Industrial Sociology: PU for CHE, RU, UW
International Politics: UNORTH, PU for CHE, UP, UNISA
International Relations: UW
Islamic Studies: UDW, RAU
Italian: UNISA, US, UW
Jewish Studies: UN
Journalism: RU
Judaica: UNISA
Latin: All the universities
Library and Information Science: UFH, UW
Linguistics: UCT, RAU, UNISA, UWC, UW
Linguistics and English Language: RU
Mathematical Statistics: UN, UPE, UP, RAU, RU, UW
Mathematics: UCT, UFH, UN, UNORTH, UOFS, UPE, PU for CHE, UP, RAU, RU, UNISA, UWC, UW, UZ
Mathematics (Teaching): UW
Mineral Economics: RAU
Modern Hebrew: UNISA
Music: UN, UZ
Music and Social Anthropology: UN
Music and Speech and Drama: UN
National Strategy: RAU
Ndonga (SWA): UNISA
Nederlands: UDW
Northern Sotho: UNORTH, PU for CHE, RAU, UNISA
Oriental Studies: UDW
Pastoral Psychology: RAU, US
Penology: UNISA
Persian: UDW
Philosophy: All the universities
Philosophy of Science and History of Technology: UW
Physical Education: UPE, PU for CHE, RU, UWC
Police Science: UNISA
Political Philosophy: US
Political Science: UDW, UFH, UN, UNORTH, UOFS, UPE, PU for CHE, UP, RAU, UNISA, US
Political Science and Public Administration: UZ
Political Sciences: PU for CHE
Political Studies: UW
Politics: RU
Politics and Economics: RU
Portuguese: UW
Psychology: UDW, UFH, UN, UNORTH, UOFS, UPE, PU for CHE, UP, RAU, RU, UNISA, US, UWC, UW, UZ
Psychology (Pastoral): RAU, US
Public Administration: UFH, UNORTH, UPE, UP, UNISA, US, UWC
Religious Studies: UN
Russian: UNISA, UW
Sanskrit: UDW
Science of Religion: UDW, UNISA
Semitic Languages: UNORTH, UOFS, UPE, PU for CHE, UP, RAU, UNISA, US
Shona: UCT, UNORTH, UNISA

Social Anthropology: UCT, UN, UW
Social Studies: RU
Social Theory: UW
Social Work: UPE, PU for CHE
Sociology: All the universities except UCT
Southern Sotho: UCT, UFH, UNORTH, UPE, UNISA, UZ
Spanish: UNISA
Speech and Drama: UDW, UN, RU
Speech and Interpretation: PU for CHE
Statistics: UN
Strategic Studies: UN, UNISA
Systematic Theology: UFH, RU
Theatrical Art: PU for CHE
Tsonga: UNORTH, UNISA
Tswana: UNORTH, PU for CHE, UNISA
Urban and Development Sociology: UP
Urdu: UDW
Venda: UNORTH, UNISA
Xhosa: UCT, UFH, UPE, UNISA, UWC
Zulu: UDW, UN, PU for CHE, RAU, UNISA, UZ

At UCT the degree of B.A.(Hons.) may also be conferred in a pair of language subjects (not African Languages):

e.g. Afrikaans en Nederlands - English
Afrikaans en Nederlands - German
English - French
French - Latin

A candidate at UN who offers Language Honours shall choose any two of the following subjects: Afrikaans en Nederlands, English, French, German, Greek, Hebrew, Latin, Zulu.

APPENDIX F

SUBJECTS IN WHICH THE B.COM.HONS. DEGREE MAY BE CONFERRED

Accountancy/Accounting: UCT, UDW, UFH, UN, UNORTH, UOFS, PU for CHE, UP, RAU, RU, UNISA, UW
Accounting and Auditing: UN, UZ
Accounting subjects: UPE*
Agricultural Economics: UNORTH, UOFS, US
Applied Computer Science: UFH
Auditing: UCT, UNORTH, UNISA
Business Administration: UN, RU
Business Data Processing: UCT, UOFS
Business Economics: UDW, UFH, UNORTH, UOFS, UPE, PU for CHE, UP, RAU, UNISA, US, UWC, UW, UZ
Business Information Systems: UW
Business Statistics: UWC
Communication: RAU
Computer Science: UPE, RAU, US, UW
Cost Accounting: PU for CHE
Cost and Managerial Accounting: UNORTH, UW
Development Studies: RAU
Econometry: UP, RAU
Economic Geography: UPE
Economic History: RU, UW
Economics: All the universities
Financial Management: UCT
General Accounting Subjects: UPE
Industrial and Organizational Psychology: UPE
Industrial and Personnel Psychology: PU for CHE
Industrial Psychology: UDW, UFH, UNORTH, UOFS, RAU, UNISA, US, UWC, UZ
Industrial Relations: UPE
Industrial Sociology: PU for CHE
Informatics: RAU
Investment Management: RAU
Marketing Management: UP
Mathematical Statistics: UOFS, UPE, RAU, US
Mathematics: UOFS, UPE, US
Mathematics and Statistics: UN
Mineral Economics: RAU
Money and Banking: UOFS
Operations Research: UNORTH, RU
Personnel Management: UP
Public Administration: UPE
Sociology: RAU, US
Statistics: UCT, UDW, UFH, UOFS, PU for CHE, UP, RU, UNISA, US
Taxation: UCT
Training Management: RAU
Transport Economics: UOFS, RAU, UNISA, US

*A candidate who qualifies for the Honours degree in Accountancy Subjects obtains simultaneously the Certificate in the Theory of Accountancy (C.T.A.), provided that he has complied with all the requirements for obtaining the Certificate. See also ACCOUNTANCY.

APPENDIX G

SUBJECTS IN WHICH THE B.Sc.HONS. DEGREE MAY BE CONFERRED

Actuarial Science: UW
Analytical Science: UCT
Anatomy: UW
Applied Botany: PU for CHE
Applied Chemistry: UFH, UW
Applied Computer Science: UFH
Applied Mathematics: All the universities except RAU
Applied Psychology: UW
Archaeology: UCT, UW
Astronomy: UOFS
Astrophysics: UCT
Atmospheric Science: UCT
Avian Biology: UCT
Biochemistry: UCT, UDW, UFH, UN, UOFS, UPE, PU for CHE, UP, RAU, RU, US, UWC, UW
Biological Science: UN
Biometry: UN
Botany: All the universities except RU and UNISA
Botany (Plant Physiology): US
Chemistry: All the universities
Clinical Psychology: US
Clothing: PU for CHE
Computer Science: All the universities except UFH and UZ
Counselling Psychology: US
Dietetics: PU for CHE, US
Economics: UN
Electronics: RU
Energy Studies: RAU
Engineering Geology: UN, UP, UW
Entomology: UN, UOFS, PU for CHE, UP, RU, US
Entomology (Nematology): US
Environmental and Geographical Science: UCT
Experimental Physiology: UW
Exploration and Mining Geology: UW
Exploration Geophysics: UP
Food Science: PU for CHE
General Anatomy: UW
General Physiology: UW
General Psychology: UW
Genetics: UN, UOFS, UP, US, UW
Geochemistry: UCT, UOFS, US
Geography: All the universities except UCT
Geohydrology: UOFS
Geology: All the universities except UNISA
Geology/Economics: UN
Geophysics: UW
Histology: UW
Home Economics: UOFS
Human Genetics: UW
Hydrology: UN, UOFS
Ichthyology: RU
Industrial and Personnel Psychology: PU for CHE
Industrial Psychology: UW
Information Systems: RAU, UNISA
Limnology: UOFS
Marine Biology: UCT
Materials Engineering: UCT
Mathematical Statistics: UCT, UFH, UN, UNORTH, UOFS, UPE, UP, RAU, RU, US, UWC, UW
Mathematical Studies: UDW
Mathematics: All the universities
Mathematics (Teaching): UW
Medical Biochemistry: UW
Metallurgy: UP
Meteorology: UP
Micro-anatomy: UW
Microbiology: UCT, UDW, UNORTH, UOFS, PU for CHE, UP, RU, US, UW
Microbiology - Plant Pathology: UN
Mineral Economics: RAU
Molecular Biology: UCT
Nematology: RAU
Operations Research: UCT, RU, UNISA, UW
Palaeontology: UW
Pedology: PU for CHE

Pharmacology: UW
Physical Education: PU for CHE
Physical Oceanography: UCT
Physics: All the universities
Physics (Experimental and Theoretical): UW
Physics (Nuclear Radiation Physics): US
Physics (Spectrophysics): US
Physics (Theoretical Physics): US
Physiology: UCT, UDW, UNORTH, PU for CHE, US, UWC, UW
Plant Pathology: US, UWC
Plant Physiology: UP
Plant Science: RU
Polymer Science: US
Psychology: UCT, UDW, UFH, UN, UNORTH, UOFS, PU for CHE, RAU, RU, UNISA, US
Soil Science: UNORTH, UOFS
Statistics: UDW, UN, UOFS, UNISA
Statistics and Operations Research: PU for CHE
Theoretical Physics: UCT, UFH, RAU, UW
Virology: UCT, US
Water Environmental Science: UP
Zoology: All the universities except UNISA
Zoology - Entomology: UOFS
Zoology - Palaeontology: US

APPENDIX H

USEFUL ADDRESSES

1. UNIVERSITIES

The Registrar
University of Cape Town
Private Bag
RONDEBOSCH
7700

The Registrar
University of Durban-Westville
Private Bag X54001
DURBAN
4000

The Registrar Academic
University of Fort Hare
Private Bag X1314
ALICE
Republic of Ciskei

The Registrar: Academic
Medical University of Southern Africa
P.O. MEDUNSA
0204

The Registrar
University of Natal
King George V Avenue
DURBAN
4001

OR

The Registrar
University of Port Elizabeth
P.O. Box 1600
PORT ELIZABETH
6000

The Registrar
Potchefstroom University for Christian Higher Education
POTCHEFSTROOM
2520

The Registrar
University of Pretoria
PRETORIA
0002

The Registrar
Rand Afrikaans University
P.O. Box 524
JOHANNESBURG
2000

The Registrar
Rhodes University
P.O. Box 94
GRAHAMSTOWN
6140

The Registrar
University of Natal
P.O. Box 375
PIETERMARITZBURG
3200

The Registrar
University of the North
Private Bag X1106
SOVENGA
0727

The Registrar Academic
University of the Orange Free State
P.O. Box 339
BLOEMFONTEIN
9300

The Registrar
University of the Western Cape
Private Bag X17
BELLVILLE
7530

The Registrar
University of the Witwatersrand
Jan Smuts Avenue
JOHANNESBURG
2001

The Registrar (Academic)
University of South Africa
P.O. Box 392
PRETORIA
0001

The Registrar (Academic)
University of Stellenbosch
STELLENBOSCH
7600

The Registrar
VISTA University
Private Bag X634
PRETORIA
0001

The Registrar
University of Zululand
Private Bag X1001
KWADLANGEZWA
3886

2. TECHNIKONS

The Registrar
Cape Technikon
P.O. Box 652
CAPE TOWN
8000

The Registrar
Technikon Northern Transvaal
Private Bag X24
SOSHANGUVE
0152

The Registrar
Technikon Mangosuthu
P.O. Box 12363
JACOBS
4026

The Registrar
M.L. Sultan Technikon
P.O. Box 1334
DURBAN
4000

The Registrar
Peninsula Technikon
P.O. Box 1906
BELLVILLE
7530

The Director
The Port Elizabeth Technikon
Private Bag X 6011
PORT ELIZABETH
6000

The Registrar
Technikon Pretoria
420 Church Street
PRETORIA
0002

The Registrar
Technikon RSA
Private Bag X7
BRAAMFONTEIN
2017

The Registrar
Technikon Natal
P.O. Box 953
DURBAN
4000

The Director
Technikon OFS
Private Bag X20539
BLOEMFONTEIN
9300

The Rector
Vaal Triangle Technikon
Private Bag X021
VANDERBIJLPARK
1900

The Registrar
Technikon Witwatersrand
P.O. Box 3293
JOHANNESBURG
2000

3. GOVERNMENT DEPARTMENTS (February 1986)

Unless otherwise stated enquiries should be addressed to the Director-General.

Department of Agricultural Economics and Marketing
Private Bag X250
PRETORIA
0001

The Auditor-General
Office of the Auditor-General
P.O. Box 446
PRETORIA
0001

The Secretary
Office of the Commission for Administration
Private Bag X121
PRETORIA
0001

Department of Constitutional Development and Planning
Private Bag X644
PRETORIA
0001

Department of Development Aid
P.O. Box 384
PRETORIA
0001

Department of Education and Training
Private Bag X212
PRETORIA
0001

Department of Environment Affairs
Private Bag X447
PRETORIA
0001

Department of Home Affairs
Private Bag X114
PRETORIA
0001

Department of Justice
Private Bag X81
PRETORIA
0001

Department of Manpower
Private Bag X117
PRETORIA
0001

Department of Mineral and Energy Affairs
Private Bag X59
PRETORIA
0001

Department of National Education
Private Bag X122
PRETORIA
0001

Department of National Health and Population Development
Private Bag X63
PRETORIA
0001

National Intelligence Service
Private Bag X87
PRETORIA
0001

Department of Finance
Private Bag X115
PRETORIA
0001

Department of Foreign Affairs
Private Bag X152
PRETORIA
0001

The Head
South African Defence Force
Private Bag X161
PRETORIA
0001

The Commissioner
South African Police
Private Bag X94
PRETORIA
0001

The General Manager
SA Transport Services
Private Bag X637
PRETORIA
0001

The Secretary General
Office of the State President
Private Bag X1000
PRETORIA
0001

The Postmaster-General
Department of Post and
Telecommunications
Private Bag X425
PRETORIA
0001

Department of Public Works and Land
Affairs
Private Bag X65
PRETORIA
0001

Department of Trade and Industry
Private Bag X84
PRETORIA
0001

Department of Transport
Private Bag X193
PRETORIA
0001

Department of Water Affairs
Private Bag X313
PRETORIA
0001

Administration: House of Assembly

Subdivisions:

Department of Health Services and Welfare
Department of Agriculture and Water Supply
Department of Local Government, Housing and Works
Department of Budgetary and Auxiliary Services
Department of Education and Culture
(All correspondence for these departments must be directed to the Director-General.)

Private Bag X723
PRETORIA
0001

Administration: House of Representatives

Subdivisions:

Department of Local Government, Housing and Agriculture
Department of Budgetary and Auxiliary Services
Department of Health Services and Welfare
Department of Education and Culture
(All correspondence for these departments must be addressed to the Director-General.)

Private Bag X9058
CAPE TOWN
8000

Administration: House of Delegates

Subdivisions:

Department of Education and Culture
Department of Health Services and Welfare
Department of Budgetary and Auiliary Services
Department of Local Government, Housing and Agriculture
(All correspondence for these departments must be addressed to the Director-General.)

Private Bag X54330
DURBAN
4000

4. REGIONAL OFFICES OF THE COMMISSION FOR ADMINISTRATION

PRETORIA

1419 Transvaal House
corner of Vermeulen and
Van der Walt Streets
Private Bag X121
PRETORIA
0001

CAPE TOWN

Ninth Floor
The Golden Acre
Adderley Street
CAPE TOWN
8000

BLOEMFONTEIN

831 H.F. Verwoerd Buildings
St Andrew Street
P.O. Box 517
BLOEMFONTEIN
9300

DURBAN

507 Escoval House
437 Smith Street
DURBAN
4001

JOHANNESBURG

1203 Kelhof
112 Pritchard Street
P.O. Box 6371
JOHANNESBURG
2000

PORT ELIZABETH

59 Eben Dönges Buildings
Hancock Street
North End
P.O. Box 3192
PORT ELIZABETH
6000

KIMBERLEY

310 Saambou Buildings
Du Toitspan Road
KIMBERLEY
8301

5. GUIDANCE AND PLACEMENT CENTRES FOR VOCATIONAL GUIDANCE

Department of Manpower

Central House
81 Ampthill Avenue
Private Bag X1007
BENONI
1500

Civilia Building
14 Elizabeth Street
P.O. Box 522
BLOEMFONTEIN
9300

Thomas Boydell Building
Parade Street
P.O. Box 872
CAPE TOWN
8000

Government Offices
Masonic Grove
Esplanade
P.O. Box 940
DURBAN
4000

3 Hill Street
P.O. Box 312
EAST LONDON
5200

Public Offices
54 York Street
Private Bag X6545
GEORGE
6530

Vicmey Building
125 Meyer Street
Private Bag X1041
GERMISTON
1400

Markstead Building
cor. Market and Stead Streets
Private Bag X5012
KIMBERLEY
8300

P.C. Pelser Building
Voortrekker Street
P.O. Box 461
KLERKSDORP
2570

Fairweather Heights Building
1ste Floor
Brand Street
P.O. Box 437
KROONSTAD
9500

New Government Building
cor. Commissioner and Biccard Streets
Private Bag X2022
KRUGERSDORP
1740

Bester Brown Buildings
Room 311
Paul Kruger Street
P.O. Box 346
NELSPRUIT
1200

Sanlam Building
5th Floor
200 Church Street
Private Bag X9048
PIETERMARITZBURG
3200

Commissioner Buildings
cor. Landdros Maré and Bodenstein Streets
Private Bag X9368
PIETERSBURG
0700

Conlyn House
156 President Street
P.O. Box 4560
JOHANNESBURG
2000

Eben Dönges Building
Hancock Street
North End
Private Bag 3908
PORT ELIZABETH
6000

Rotensua Building
83 Church Street
P.O. Box 1001
POTCHEFSTROOM
2520
(Mondays 09h00-12h00 only)

Homes Trust Building
Mooi Street
P.O. Box 463
WELKOM
9460

2nd Floor
Manpower Building
215 Schoeman Street
P.O. Box 393
PRETORIA
0001

Directorate of Civil Affairs and Manpower
Cohen Building
cor. Kaiser and Casino Streets
Private Bag X13200
WINDHOEK
9000

Elizabeth House
21 Leslie Street
Private Bag X04
VEREENIGING
1930

6. EDUCATION DEPARTMENTS (See also Government Departments)

The Director of Education
Department of Education,
Cape of Good Hope
P.O. Box 13
CAPE TOWN
8000

The Director of Education
OFS Department of Education
P.O. Box 521
BLOEMFONTEIN
9300

The Director of Education
Natal Education Department
Private Bag X9044
PIETERMARITZBURG
3200

The Director of Education
Transvaal Education Department
Private Bag X76
PRETORIA
0001

7. PROVINCIAL ADMINISTRATIONS

The Provincial Secretary
Provincial Administration of the Cape
of Good Hope
P.O. Box 659
CAPE TOWN
8000

The Provincial Secretary
Provincial Administration of Natal
Private Bag X9037
PIETERMARITZBURG
3200

The Provincial Secretary
Provincial Administration of the
Orange Free State
P.O. Box 517
BLOEMFONTEIN
9300

The Provincial Secretary
Provincial Administration of the
Transvaal
Private Bag X64
PRETORIA
0001

8. OTHER BODIES AND ORGANISATIONS

The President
Human Sciences Research Council (HSRC)
Private Bag X41
PRETORIA
0001

The Personnel Manager
African Explosives and Chemical
Industries Ltd. (AECI)
P.O. Box 1122
JOHANNESBURG
2000

The Personnel Manager
Armaments Corporation (ARMSCOR)
Private Bag X337
PRETORIA
0001

The Director
Building Industries Federation (South
Africa) (BIFSA)
P.O. Box 11359
JOHANNESBURG
2000

The General Manager
Chamber of Mines of South Africa
P.O. Box 809
JOHANNESBURG
2000

The Assistant Manager: Administration
Council for Mineral Technology (MINTEK)
Private Bag X3015
RANDBURG
2125

The Secretary
Administrative Services Department
CSIR
P.O. Box 395
PRETORIA
0001

The Personnel Superintendent
Foskor
P.O. Box 1
PHALABORWA
1390

The Director of Hospital Services
Cape Provincial Hospitals Department
P.O. Box 2060
CAPE TOWN
8000

The Director of Hospital Services
Natal Depatment of Hospital Services
Private Bag X9051
PIETERMARITZBURG
3200

The Director of Hospital Services
OFS Division Hospital Services
P.O. Box 517
BLOEMFONTEIN
9300

The Director of Hospital Services
Transvaal Department of Hospital
Services
Private Bag X221
PRETORIA
0001

The Secretary
Joint Matriculation Board
P.O. Box 3854
PRETORIA
0001

The Executive Director
National Institute for Personnel
Research
P.O. Box 32410
BRAAMFONTEIN
2107

The Personnel Manager
Electricity Supply Commission (ESCOM)
P.O. Box 1091
JOHANNESBURG
2000

The Personnel Officer
NUCOR
Private Bag X256
PRETORIA
0001

The Director: Personnel
South African Broadcasting Corporation
(SABC)
P.O. Box 8606
JOHANNESBURG
2000

The Director
South African Bureau of Standards
(SABS)
Private Bag X191
PRETORIA
0001

The Executive Director
South African Nursing Association
Private Bag X105
PRETORIA
0001

The Registrar
The South African Nursing Council
P.O. Box 1123
PRETORIA
0001

The Personnel Manager
South African Coal, Oil and Gas
Corporation Limited (SASOL)
P.O. Box 1
SASOLBURG
9570

The Director
National Parks Board
P.O. Box 787
PRETORIA
0001

The Corporative Manager (Personnel)
South African Iron and Steel Industrial
Corporation Limited (Iscor)
P.O. Box 450
PRETORIA
0001

The President
South African Medical Research Council
(MRC)
P.O. Box 70
TYGERBERG
7505

The General Manager
South African Transport Services
Paul Kruger Building
Wolmarans Street
JOHANNESBURG
2001

The Deputy Postmaster General
Telecommunications
Private Bag X74
PRETORIA
0001

The Manager: Personnel Affairs
Uranium Enrichment Corporation of SA
Ltd. (UCOR)
P.O. Box 4587
PRETORIA
0001

LIST OF ABBREVIATIONS

AECI	African Explosives and Chemical Industries Ltd
ARMSCOR	Armaments Corporation
CSIR	Council for Scientific and Industrial Research
Escom	Electricity Supply Commission
FOSKOR	Phosphate Development Corporation Ltd

HSRC	Human Sciences Research Council
ISCOR	South African Iron and Steel Industrial Corporation Ltd
MINTEK	Council for Mineral Technology
MRC	South African Medical Research Council
NIPR	National Institute for Personnel Research
NUCOR	Nuclear Development Corporation of South Africa (Pty) Ltd
SABC	South African Broadcasting Corporation
SABS	South African Bureau of Standards
SASOL	South African Coal, Oil and Gas Corporation, Ltd
SOECOR	Southern Oil Exploration Corporation (Pty) Ltd
UCOR	Uranium Enrichment Corporation of South Africa Ltd
Tertiary Training	Tertiary training outside universities and career opportunities (See List of Sources.)
SG	Standard Grade
HG	Higher Grade

LIST OF SOURCES

YEARBOOKS of the universities, 1985.

INFORMATION BROCHURES and PAMPHLETS made available by the universities and the Commission for Administration.

SOUTH AFRICA (Republic). Department of Manpower. *My Career/My Loopbaan.* (Quarterly on vocational information.)

MATRICULATION EXAMINATION HANDBOOK. Pretoria: Joint Matriculation Board, 1985

HSRC PUBLICATIONS

IN-37: COETZEE, C.J.S. and FOURIE, Ewie, C. *Tertiary training outside universities and career opportunities*, 1982.

MM-93: EBERSOHN, D.ed. *Occupational information 1982*, 1983.
Occupations: Arbeidsterapeut, argitek, dietician, engineer, fisioterapeut, land surveyor, maatskaplike werker, radiographer, spraakterapeut and oudioloog.

MM-103: EBERSOHN, D. ed. *Occupational Information 1983*, 1984.
Occupations: Attorney, advocate, geneesheer, geoktrooieerde rekenmeester/ouditeur, medical specialist, quantity surveyor, stads- en streekbeplanner, tandarts and veterinarian.

HSRC PUBLICATION LIST

A complete list of HSRC publications or a list of publications of a particular Institute of the HSRC is available from the Head: Technical Services

HUMAN SCIENCES RESEARCH COUNCIL
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Chief PRO	Dr M.J. Bekker	Skakelhoof

Functions of the HSRC

The HSRC undertakes, promotes, supports and co-ordinates research in the field of the human sciences. It also determines research priorities, disseminates the findings of human sciences research, facilitates and evaluates the implementation of research findings, stimulates the training of researchers, places the full spectrum of human sciences disciplines at the service of the inhabitants of the RSA and promotes science in general.

Institutes

- Institute for Communication Research (ICOMM)
- Institute for Educational Research (IER)
- Institute for Historical Research (IHR)
- Institute for Manpower Research (IMAN)
- National Institute for Personnel Research (NIPR)
- Institute for Psychological and Edumetric Research (IPER)
- Institute for Research Development (IRD)
- Institute for Research into Language and the Arts (IRLA)
- Institute for Sociological and Demographic Research (ISODEM)
- Institute for Statistical Research (ISR)
- Bureau for Research Support Services (BRSS)
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Funksies van die RGN

Die RGN onderneem, bevorder, ondersteun en koördineer navorsing op die gebied van die geesteswetenskappe, bepaal navorsingsprioriteite, versprei die resultate van geesteswetenskaplike navorsing, vergemaklik en evalueer die implementering van die resultate van navorsing, stimuleer die opleiding van navorsers, stel die volle spektrum van dissiplines in die geesteswetenskappe ten diens van die inwoners van die RSA en bevorder die wetenskap in die breë.

Institute

- Instituut vir Geskiedenisnavorsing (IGN)
- Instituut vir Kommunikasienavorsing (IKOMM)
- Instituut vir Mannekragnavorsing (IMAN)
- Instituut vir Navorsingsontwikkeling (INO)
- Instituut vir Opvoedkundige Navorsing (ION)
- Nasionale Instituut vir Personeelnavorsing (NIPN)
- Instituut vir Psigologiese en Edumetriese Navorsing (IPEN)
- Instituut vir Sosiologiese en Demografiese Navorsing (ISODEM)
- Instituut vir Statistiese Navorsing (ISN)
- Instituut vir Taal- en Kunstenavorsing (INTAK)
- Buro vir Ondersteunende Navorsingsdienste (BOND)
- Administrasie

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